Lampiran 1. Surat Izin Penelitian

MAJELIS PENDIDIKAN TINGGI LITBANG PIMPINAN PUSAT MUHAMMADIYAH
UNIVERSITAS MUHAMMADIYAH LAMONGAN
SK. Menteri RISTEK DIKTI RI Nomor 880/KPT/I/2018
LEMBAGA PENELITIAN & PENGABDIAN MASYARAKAT
Website : www.umla.ac.id - Email : lppm@umla.ac.id
Jl. Raya Plalangan - Plosowahyu KM 3, Telp./Fax. (0322) 322356 Lamongan 62251

Lamongan, 24 November 2023

Nomor : 1570 /III.3/AU/F/2023
Lamp. : -
Perihal : *Ijin melakukan penelitian*

Kepada
Yth. **Dekan FIKes**
Universitas Muhammadiyah Lamongan

Di -
Tempat

Assalamu'alaikum Wr. Wb.

Menunjuk proposal yang masuk ke LPPM tanggal 23 November 2023, Perihal : Tugas Akhir Penelitian.

Maka dengan ini menyatakan bahwa pada prinsipnya tidak keberatan dan memberikan ijin untuk melakukan **Penelitian**, adapun mahasiswa tersebut adalah :

No.	NAMA	NIM	JUDUL PENELITIAN
1.	**Aulia Zukhruf Khoirun Nisa**	**21.02.05.0366**	**Studi Formulasi dan Stabilitas Sediaan Deodoran *Roll On* Ekstrak Daun Kelor (*Moringa oleifera* L.)**

Dengan ketentuan – ketentuan sebagai berikut :

1. Menjaga tata tertib, keamanan, kesopanan dan kesusilaan serta menghindari pernyataan-pernyataan baik lisan maupun tulisan/lukisan yang dapat melukai/menyinggung perasaan atau menghina agama, bangsa dan negara dari suatu golongan tertentu.
2. Setelah berakhirnya Penelitian, yang bersangkutan diwajibkan untuk memberikan laporan tertulis tentang pelaksanaan dan hasil Kepada Dekan FiKes Universitas Muhammadiyah Lamongan.

Demikian untuk menjadikan maklum dan guna seperlunya
Wassalamu'alaikum Wr. Wb.

Kepala LPPM

Abdul Rokhman, S.Kep., Ns., M.Kep.
NIK. 19881020201211 056

Tembusan disampaikan Kepada:
Yth. 1. Kaprodi D3 Farmasi FiKes Universitas Muhammadiyah Lamongan
2. Arsip.

Lampiran 2. Surat Permohonan Penelitian Laboratorium

SURAT PERMOHONAN PENELITIAN DI LABORATORIUM

Hal: Permohonan Izin Penelitian di Laboratorium
Kepada Yth:
Kepala Laboratorium Pendidikan Kesehatan Terpadu
Universitas Muhammadiyah Lamongan

Assalamu'alaikum Wr. Wb.
Dengan Hormat,

Sehubungan dengan penelitian yang akan saya lakukan, maka saya yang bertanda tangan di bawah ini:

Nama	: Aulia Zukhruf Khoirun Nisa
NIM	: 2102050366
Program Studi	: D3 Farmasi
Fakultas	: Ilmu Kesehatan
Judul Penelitian	: Studi Formulasi Dan Stabilitas Sediaan Deodoran *Roll on* Ekstrak Daun Kelor (*Moringa oleifera* L.)

Memohon izin kepada Bapak/Ibu untuk melakukan penelitian di Laboratorium Pendidikan Kesehatan Terpadu Universitas Muhammadiyah Lamongan.

Demikian surat permohonan ini saya buat. Atas perhatian Bapak/Ibu, saya ucapkan terimakasih.

Mengetahui,
Dosen Pembimbing I

Diah Indah Kumala Sari, M. Farm

Hormat Saya

Aulia Zukhruf Khoirun Nisa

Menyetujui
Ketua Pelaksana

Dr. H. Dadang Kusbiantoro, S.Kep., Ns., M.Si., M.M.

Mengetahui,
Dosen Pembimbing II

apt. Fransisca Dita M., M. Farm

Lampiran 3. Lembar Bimbingan KTI

MAJELIS PENDIDIKAN TINGGI LITBANG PIMPINAN PUSAT MUHAMMADIYAH
UNIVERSITAS MUHAMMADIYAH LAMONGAN
SK Menteri RISTEK DIKTI RI Nomor 880/KPT/I/2018
Fakultas Ilmu Kesehatan – Fakultas Ekonomi & Bisnis – Fakultas Sains & Teknologi - Fakultas Keguruan & Ilmu Pendidikan
Website: www.um.lamongan.ac.id - Email : um.lamongan@yahoo.co.id -
Jl. Raya Plalangan Plosowahyu KM 3 Telp/ Fax (0322) 322356 Lamongan 62251

LEMBAR BIMBINGAN KTI
TAHUN AKADEMIK 2023/2024

Nama : Aulia Zukhruf Khoirun Nisa
Nomor Induk Mahasiswa (NIM) : 2102010366
Pembimbing I / II * : Diah Indah Kumala Sari, M.Farm
Judul : Studi Formulasi dan Stabilitas Sediaan Deodorant Roll On Ekstrak Daun Kelor (Moringa Oleifera L.)

Tanggal	Topik Pembahasan	Saran Pembimbing	Paraf
25/08/2023	Judul Proposal	Olah kembali kalimat untuk judul	
30/08/2023	BAB I	Latar belatang diperjelas dan tidak bertele-tele.	
09/09/2023	BAB II	• Kerangka konsep dirapihkan • Urutkan tinjauan pustaka	
13/09/2023	BAB III	• Konsultasi sampel kelor • Menggunakan metode analisis deskriptif.	
22/09/2023	Formula	• Pahami tentang formula • Penulisan ritasi	
27/09/2023	Skrining Fitokimia	Fokuskan pada flavonoid, alkaloid, dan tanin.	
06/10/2023	Daftar Pustaka	Sesuaikan format APA mendeley	
06/11/2023	BAB I, II, dan III	ACC BAB I, II, III	

*Coret yang tidak perlu

Pembimbing I / ~~II~~ *

Diah Indah Kumala S., M.Farm
NIDN. 0716039901

MAJELIS PENDIDIKAN TINGGI LITBANG PIMPINAN PUSAT MUHAMMADIYAH
UNIVERSITAS MUHAMMADIYAH LAMONGAN
SK Menteri RISTEK DIKTI RI Nomor 880/KPT/I/2018
Fakultas Ilmu Kesehatan – Fakultas Ekonomi & Bisnis – Fakultas Sains & Teknologi - Fakultas Keguruan & Ilmu Pendidikan
Website: www.um.lamongan.ac.id - Email : um.lamongan@yahoo.co.id -
Jl. Raya Plalangan Plosowahyu KM 3 Telp/ Fax (0322) 322356 Lamongan 62251

LEMBAR BIMBINGAN KTI
TAHUN AKADEMIK 2023/2024

Nama : Aulia Zukhruf Khoirun Nisa
Nomor Induk Mahasiswa (NIM) : 2102050366
Pembimbing I / II * : Apt. Fransisca Dita Mayangsari, M.Farm
Judul : Studi Formulasi dan Stabilitas Sediaan Deodoran Roll On Ekstrak Daun Kelor (Moringa Oleifera L.)

Tanggal	Topik Pembahasan	Saran Pembimbing	Paraf
06/10/2023	Formula	Pertimbangkan lagi formula yang digunakan.	
26/10/2023	BAB I	Ditambahkan alasan penggunaan konsentrasi ekstrak daun kelor pada BAB I	
06/11/2023	BAB II	Perbaiki kerangka konsep	
07/11/2023	BAB III	Perbaikan kerangka kerja ACC ujian proposal	

*Coret yang tidak perlu

Pembimbing I / II *

apt. Fransisca Dita M., M.Farm
NIDN. 0701049302

MAJELIS PENDIDIKAN TINGGI LITBANG PIMPINAN PUSAT MUHAMMADIYAH
UNIVERSITAS MUHAMMADIYAH LAMONGAN
SK Menteri RISTEK DIKTI RI Nomor 880/KPT/I/2018
Fakultas Ilmu Kesehatan – Fakultas Ekonomi & Bisnis – Fakultas Sains & Teknologi - Fakultas Keguruan & Ilmu Pendidikan
Website: www.um.lamongan.ac.id - Email : um.lamongan@yahoo.co.id -
JL. Raya Plalangan Plosowahyu KM 3 Telp/ Fax (0322) 322356 Lamongan 62251

LEMBAR BIMBINGAN KTI
TAHUN AKADEMIK 2023/2024

Nama : Aulia Zukhruf Khoirun Nisa
Nomor Induk Mahasiswa (NIM) : 2102050366
Pembimbing I / ~~II~~* : Diah Indah Kumala Sari, M.Farm
Judul : Studi Formulasi dan Stabilitas Sediaan Deodoran Roll On Ekstrak Daun Kelor (Moringa Oleifera L.)

Tanggal	Topik Pembahasan	Saran Pembimbing	Paraf
14-03-2024	Diskusi Hasil	Data disajikan berupa tabel dan diagram dengan penataan sesuai format	
25-03-2024	Diskusi BAB IV	Revisi BAB IV	
05-04-2024	Diskusi Pembahasan	Revisi Pembahasan	
24-04-2024	Diskusi BAB IV	Revisi Pembahasan	
26-04-2024	Diskusi BAB IV	Revisi Pembahasan	
29-04-2024	Diskusi BAB IV dan V	Revisi BAB IV	
03-05-2024	Diskusi BAB IV, V, dan Abstrak	Revisi BAB V dan Abstrak	
08-05-2024	Diskusi BAB V dan Abstrak	Revisi Abstrak	
16-05-2024	Diskusi Abstrak	ACC SIDANG KTI	

*Coret yang tidak perlu

Pembimbing I / ~~II~~*

.....
NIDN. 0716039401

MAJELIS PENDIDIKAN TINGGI LITBANG PIMPINAN PUSAT MUHAMMADIYAH
UNIVERSITAS MUHAMMADIYAH LAMONGAN
SK Menteri RISTEK DIKTI RI Nomor 880/KPT/I/2018
Fakultas Ilmu Kesehatan – Fakultas Ekonomi & Bisnis – Fakultas Sains & Teknologi - Fakultas Keguruan & Ilmu Pendidikan
Website: www.um.lamongan.ac.id - Email : um.lamongan@yahoo.co.id -
Jl. Raya Plalangan Plosowahyu KM 3 Telp/ Fax (0322) 322356 Lamongan 62251

LEMBAR BIMBINGAN KTI

TAHUN AKADEMIK 2023/2024

Nama : Aulia Zukhruf Khoirun Nisa
Nomor Induk Mahasiswa (NIM) : 2102050366
Pembimbing I/ II * : Apt. Fransisca Dita Mayangsari, M. Farm
Judul : Studi Formulasi dan Stabilitas Sediaan Deodoran Roll On Ekstrak Daun Kelor (Moringa Oleifera L.)

Tanggal	Topik Pembahasan	Saran Pembimbing	Paraf
26-09-2024	Diskusi Hasil	Revisi BAB IV : Penambahan kalimat penelitian terdahulu	
27-05-2024	Diskusi Hasil	ACC SIDANG KTI	

*Coret yang tidak perlu

Pembimbing I / II *

apt. Fransisca Dita M., M. Farm

NIDN. 0701649302

Lampiran 4. Determinasi

PT. PALAPA MUDA PERKASA

CHEMICALS PRODUCT AND CHEMICAL ANALYSIS SERVICE

Jalan Kalimulya No 23 Cilodong, Kota Depok Jawa Barat, 16417

Telepon : 08158289986/021-27616322, Surat Elektronik : palapamudaperkasa2017@gmail.com

Nomor : 996/IPH.1.01/If.08/I/2023
Lampiran : -
Perihal : *Hasil identifikasi /determinasi Tumbuhan*

Depok, 05 November 2023

Kepada Yth.
Bpk./Ibu/Sdr(i). **AULIA ZUKHRUF KHOIRUN NISA**
NIM 2102050366
UNIVERSITAS MUHAMMADIYAH LAMONGAN
Rt.02/01 Dusun Prembugan Desa Pekuwon
Kec.Sumberrejo, Kab.Bojonegoro

Dengan hormat,

Bersama ini kami sampaikan hasil identifikasi / determinasi tumbuhan yang saudara kirimkan ke "PMP", adalah :

No.	No. Kol.	Jenis	Suku
1	Daun Kelor	Moringa oleifera L	Moringaceae

Demikian, semoga berguna bagi Saudara.

Depok, 06 November 2023
Manager Quality

NOVITA

Nomor : 996/IPH.1.01/If.08/I/2023
Lampiran : -

DOKUMEN ASLI / AULIA ZUKHRUF KHOIRUN NISA / UNIV MUHAMMADIYAH/PMP

Lampiran 5. *Certificate Of Analysis*

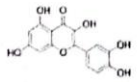
Sigma-Aldrich

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

Certificate of Analysis

Product Name:
Quercetin - ≥95% (HPLC), solid

Product Number:	**Q4951**
Batch Number:	**SLCP7706**
Brand:	SIGMA
CAS Number:	117-39-5
Formula:	C15H10O7
Formula Weight:	302.24 g/mol
Quality Release Date:	22 NOV 2022



Test	Specification	Result
Appearance (Color) Yellow	Conforms	Conforms
Appearance (Form)	Powder	Powder
1H NMR Spectrum	Conforms to Structure	Conforms
Loss on Drying	≤ 4 %	3 %
Purity (HPLC)	≥ 95 %	98 %

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

Lampiran 6. Perhitungan

1. Nilai Rf dan hRf Kuersetin

a. Nilai Rf

$$\text{Rf Kuersetin} = \frac{\text{Jarak yang ditempuh analit}}{\text{Jarak yang ditempuh eluen}}$$

$$\text{Rf Kuersetin} = \frac{7{,}3 \text{ cm}}{8 \text{ cm}} = 0{,}91$$

b. Nilai hRf

$$\text{hRf Kuersetin} = 0{,}91 \times 100 = 91$$

2. Nilai Rf dan hRf Ekstrak Daun Kelor

a. Nilai Rf

$$\text{Rf Ekstrak Daun Kelor} = \frac{\text{Jarak yang ditempuh analit}}{\text{Jarak yang ditempuh eluen}}$$

$$\text{Rf Ekstrak Daun Kelor} = \frac{7{,}5 \text{ cm}}{8 \text{ cm}} = 0{,}94$$

b. Nilai hRf

$$\text{hRf Ekstrak Daun Kelor} = 0{,}94 \times 100 = 94$$

Lampiran 7. Hasil Analisis Data Statistik

Evaluasi Karakteristik Fisik

1. Hasil Uji pH

a. Uji Normalitas

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Formula	Statistic	df	Sig.	Statistic	df	Sig.
Hasil Uji pH	F0	,175	3	.	1,000	3	1,000
	F1	,191	3	.	,997	3	,900
	F2	,238	3	.	,976	3	,702
	F3	,227	3	.	,983	3	,747

a. Lilliefors Significance Correction

Ketentuan :

Sig >0,05 = Normal

b. Uji Homogenitas

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Hasil Uji pH	Based on Mean	,532	3	8	,673
	Based on Median	,283	3	8	,836
	Based on Median and with adjusted df	,283	3	6,599	,836
	Based on trimmed mean	,514	3	8	,684

Ketentuan :

Sig >0,05 = Homogen

c. Uji One Way Anova

ANOVA

Hasil Uji pH

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1,537	3	,512	180,835	,000
Within Groups	,023	8	,003		
Total	1,560	11			

Ketentuan :

Sig <0,05 = terdapat perbedaan bermakna antar formula

Hasil Uji pH

Tukey HSD[a]

Formula	N	Subset for alpha = 0.05			
		1	2	3	4
F3	3	5,2800			
F2	3		5,5200		
F1	3			5,8567	
F0	3				6,2300
Sig.		1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

2. Hasil Uji Daya Sebar

a. Uji Normalitas

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Formula	Statistic	df	Sig.	Statistic	df	Sig.
Daya Sebar	F0	,175	3	.	1,000	3	1,000
	F1	,253	3	.	,964	3	,637
	F2	,175	3	.	1,000	3	1,000
	F4	,175	3	.	1,000	3	1,000

a. Lilliefors Significance Correction

Ketentuan :

Sig >0,05 = Normal

b. Uji Homogenitas

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Daya Sebar	Based on Mean	,537	3	8	,670
	Based on Median	,407	3	8	,752
	Based on Median and with adjusted df	,407	3	6,000	,754
	Based on trimmed mean	,530	3	8	,674

Ketentuan :

Sig >0,05 = Homogen

c. Uji One Way Anova

ANOVA

Daya Sebar

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13,922	3	4,641	222,760	,000
Within Groups	,167	8	,021		
Total	14,089	11			

Ketentuan :

Sig <0,05 = terdapat perbedaan bermakna antar formula

Daya Sebar

Tukey HSD[a]

		Subset for alpha = 0.05			
Formula	N	1	2	3	4
F0	3	3,5000			
F1	3		4,4667		
F2	3			5,4000	
F3	3				6,4000
Sig.		1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

3. Hasil Uji Viskositas

a. Uji Normalitas

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Formula	Statistic	df	Sig.	Statistic	df	Sig.
Hasil Uji Viskositas	F0	,296	3	.	,918	3	,446
	F1	,323	3	.	,879	3	,321
	F2	,216	3	.	,988	3	,794
	F3	,333	3	.	,861	3	,269

a. Lilliefors Significance Correction

Ketentuan :

Sig >0,05 = Normal

b. Uji Homogenitas

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Hasil Uji Viskositas	Based on Mean	,085	3	8	,966
	Based on Median	,013	3	8	,998
	Based on Median and with adjusted df	,013	3	7,252	,998
	Based on trimmed mean	,074	3	8	,972

Ketentuan :

Sig >0,05 = Homogen

c. Uji One Way Anova

ANOVA

Hasil Uji Viskositas

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	43242200,000	3	14414066,667	561,223	,000
Within Groups	205466,667	8	25683,333		
Total	43447666,667	11			

Ketentuan :

Sig <0,05 = terdapat perbedaan bermakna antar formula

Hasil Uji Viskositas

Tukey HSD[a]

		Subset for alpha = 0.05			
Formula	N	1	2	3	4
F3	3	2676,67			
F2	3		3580,00		
F1	3			4780,00	
F0	3				7710,00
Sig.		1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 3,000.

Hasil Stabilitas Fisik

1. Hasil Uji pH

F0

a. Uji Normalitas

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_0	,175	3	.	1,000	3	1,000
Standardized Residual for Hari_30	,238	3	.	,976	3	,702
Standardized Residual for Hari_60	,343	3	.	,842	3	,220
Standardized Residual for Hari_90	,328	3	.	,871	3	,298

a. Lilliefors Significance Correction

Ketentuan :

Sig >0,05 = Normal

b. Uji Homogenitas

Mauchly's Test of Sphericity[a]

Measure: pH

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser	Huynh-Feldt	Lower-bound
F0	,086	4,219	5	,577	,497	,875	,333

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept

Within Subjects Design: F0

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Ketentuan :

Sig >0,05 = Homogen

c. Uji Repeated Measures Anova

Tests of Within-Subjects Effects

Measure: pH

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
F0	Sphericity Assumed	,001	3	,000	,217	,881
	Greenhouse-Geisser	,001	1,422	,001	,217	,752
	Huynh-Feldt	,001	3,000	,000	,217	,881
	Lower-bound	,001	1,000	,001	,217	,687
Error(F0)	Sphericity Assumed	,013	6	,002		
	Greenhouse-Geisser	,013	2,843	,005		
	Huynh-Feldt	,013	6,000	,002		
	Lower-bound	,013	2,000	,007		

Ketentuan :

Sig >0,05 = tidak terdapat perbedaan bermakna.

Pairwise Comparisons

Measure: pH

(I) F0	(J) F0	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a] Lower Bound	Upper Bound
1	2	,010	,015	1,000	-,156	,176
	3	-,020	,051	1,000	-,579	,539
	4	-,007	,027	1,000	-,304	,290
2	1	-,010	,015	1,000	-,176	,156
	3	-,030	,052	1,000	-,596	,536
	4	-,017	,037	1,000	-,421	,387
3	1	,020	,051	1,000	-,539	,579
	2	,030	,052	1,000	-,536	,596
	4	,013	,033	1,000	-,344	,371
4	1	,007	,027	1,000	-,290	,304
	2	,017	,037	1,000	-,387	,421
	3	-,013	,033	1,000	-,371	,344

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

F1

a. Uji Normalitas

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_0	,191	3	.	,997	3	,900
Standardized Residual for Hari_30	,204	3	.	,993	3	,843
Standardized Residual for Hari_60	,187	3	.	,998	3	,915
Standardized Residual for Hari_90	,187	3	.	,998	3	,915

a. Lilliefors Significance Correction

Ketentuan :

Sig >0,05 = Normal

b. Uji Homogenitas

Mauchly's Test of Sphericity[a]

Measure: pH

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser	Huynh-Feldt	Lower-bound
F1	,111	3,784	5	,634	,545	1,000	,333

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept

Within Subjects Design: F1

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Ketentuan :

Sig >0,05 = Homogen

c. Uji Repeated Measures Anova

Tests of Within-Subjects Effects

Measure: pH

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
F1	Sphericity Assumed	,002	3	,001	,140	,932
	Greenhouse-Geisser	,002	1,353	,001	,140	,803
	Huynh-Feldt	,002	3,000	,001	,140	,932
	Lower-bound	,002	1,000	,002	,140	,744
Error(F1)	Sphericity Assumed	,021	6	,004		
	Greenhouse-Geisser	,021	2,707	,008		
	Huynh-Feldt	,021	6,000	,004		
	Lower-bound	,021	2,000	,011		

Ketentuan :

Sig >0,05 = tidak terdapat perbedaan bermakna.

Pairwise Comparisons

Measure: pH

(I) F1	(J) F1	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a] Lower Bound	Upper Bound
1	2	-,010	,046	1,000	-,509	,489
	3	-,020	,069	1,000	-,774	,734
	4	-,030	,032	1,000	-,380	,320
2	1	,010	,046	1,000	-,489	,509
	3	-,010	,030	1,000	-,337	,317
	4	-,020	,035	1,000	-,402	,362
3	1	,020	,069	1,000	-,734	,774
	2	,010	,030	1,000	-,317	,337
	4	-,010	,065	1,000	-,718	,698
4	1	,030	,032	1,000	-,320	,380
	2	,020	,035	1,000	-,362	,402
	3	,010	,065	1,000	-,698	,718

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

F2

a. Uji Normalitas

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_0	,238	3	.	,976	3	,702
Standardized Residual for Hari_30	,204	3	.	,993	3	,843
Standardized Residual for Hari_60	,269	3	.	,949	3	,567
Standardized Residual for Hari_90	,191	3	.	,997	3	,900

a. Lilliefors Significance Correction

Ketentuan :

Sig >0,05 = Normal

b. Uji Homogenitas

Mauchly's Test of Sphericity[a]

Measure: pH

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser	Huynh-Feldt	Lower-bound
F2	,011	7,832	5	,225	,482	,810	,333

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept

Within Subjects Design: F2

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Ketentuan :

Sig >0,05 = Homogen

c. Uji Repeated Measures Anova

Tests of Within-Subjects Effects

Measure: pH

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
F2	Sphericity Assumed	,005	3	,002	1,219	,381
	Greenhouse-Geisser	,005	1,012	,005	1,219	,385
	Huynh-Feldt	,005	1,050	,005	1,219	,385
	Lower-bound	,005	1,000	,005	1,219	,385
Error(F2)	Sphericity Assumed	,008	6	,001		
	Greenhouse-Geisser	,008	2,024	,004		
	Huynh-Feldt	,008	2,099	,004		
	Lower-bound	,008	2,000	,004		

Ketentuan :

Sig >0,05 = tidak terdapat perbedaan bermakna.

Pairwise Comparisons

Measure: pH

(I) F2	(J) F2	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a] Lower Bound	Upper Bound
1	2	-,023	,043	1,000	-,487	,440
	3	-,027	,003	,092	-,063	,010
	4	,023	,003	,119	-,013	,060
2	1	,023	,043	1,000	-,440	,487
	3	-,003	,039	1,000	-,431	,424
	4	,047	,044	1,000	-,429	,523
3	1	,027	,003	,092	-,010	,063
	2	,003	,039	1,000	-,424	,431
	4	,050	,006	,078	-,013	,113
4	1	-,023	,003	,119	-,060	,013
	2	-,047	,044	1,000	-,523	,429
	3	-,050	,006	,078	-,113	,013

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

F3

a. Uji Normalitas

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_0	,227	3	.	,983	3	,747
Standardized Residual for Hari_30	,328	3	.	,871	3	,298
Standardized Residual for Hari_60	,175	3	.	1,000	3	1,000
Standardized Residual for Hari_90	,292	3	.	,923	3	,463

a. Lilliefors Significance Correction

Ketentuan :

Sig >0,05 = Normal

b. Uji Homogenitas

Mauchly's Test of Sphericity[a]

Measure: pH

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser	Huynh-Feldt	Lower-bound
F3	,097	4,014	5	,604	,477	,791	,333

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept

Within Subjects Design: F3

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Ketentuan :

Sig >0,05 = Homogen

c. Uji Repeated Measures Anova

Tests of Within-Subjects Effects

Measure: pH

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
F3	Sphericity Assumed	,002	3	,001	,184	,904
	Greenhouse-Geisser	,002	1,370	,002	,184	,770
	Huynh-Feldt	,002	3,000	,001	,184	,904
	Lower-bound	,002	1,000	,002	,184	,710
Error(F3)	Sphericity Assumed	,024	6	,004		
	Greenhouse-Geisser	,024	2,741	,009		
	Huynh-Feldt	,024	6,000	,004		
	Lower-bound	,024	2,000	,012		

Ketentuan :

Sig >0,05 = tidak terdapat perbedaan bermakna.

Pairwise Comparisons

Measure: pH

(I) F3	(J) F3	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a] Lower Bound	Upper Bound
1	2	,017	,030	1,000	-,306	,339
	3	-,010	,031	1,000	-,343	,323
	4	-,020	,072	1,000	-,808	,768
2	1	-,017	,030	1,000	-,339	,306
	3	-,027	,043	1,000	-,498	,445
	4	-,037	,072	1,000	-,817	,744
3	1	,010	,031	1,000	-,323	,343
	2	,027	,043	1,000	-,445	,498
	4	-,010	,044	1,000	-,485	,465
4	1	,020	,072	1,000	-,768	,808
	2	,037	,072	1,000	-,744	,817
	3	,010	,044	1,000	-,465	,485

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

2. Hasil Uji Daya Sebar

F0

a. Uji Normalitas

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_0	,175	3	.	1,000	3	1,000
Standardized Residual for Hari_30	,292	3	.	,923	3	,463
Standardized Residual for Hari_60	,175	3	.	1,000	3	1,000
Standardized Residual for Hari_90	,253	3	.	,964	3	,637

a. Lilliefors Significance Correction

Ketentuan :

Sig >0,05 = Normal

b. Uji Homogenitas

Mauchly's Test of Sphericity[a]

Measure: DayaSebarF0

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser	Huynh-Feldt	Lower-bound
Waktu	,011	7,820	5	,226	,368	,425	,333

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept

Within Subjects Design: Waktu

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Ketentuan :

Sig >0,05 = Homogen

c. Uji Repeated Measures Anova

Tests of Within-Subjects Effects

Measure: Daya_Sebar

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
F0	Sphericity Assumed	,177	3	,059	3,262	,101
	Greenhouse-Geisser	,177	1,083	,163	3,262	,206
	Huynh-Feldt	,177	1,362	,130	3,262	,184
	Lower-bound	,177	1,000	,177	3,262	,213
Error(F0)	Sphericity Assumed	,108	6	,018		
	Greenhouse-Geisser	,108	2,166	,050		
	Huynh-Feldt	,108	2,725	,040		
	Lower-bound	,108	2,000	,054		

Ketentuan :

Sig >0,05 = tidak terdapat perbedaan bermakna.

Pairwise Comparisons

Measure: Daya_Sebar

(I) F0	(J) F0	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a] Lower Bound	Upper Bound
1	2	-,167	,033	,226	-,530	,196
	3	-,100	,115	1,000	-1,357	1,157
	4	-,333	,120	,655	-1,642	,975
2	1	,167	,033	,226	-,196	,530
	3	,067	,145	1,000	-1,515	1,648
	4	-,167	,145	1,000	-1,748	1,415
3	1	,100	,115	1,000	-1,157	1,357
	2	-,067	,145	1,000	-1,648	1,515
	4	-,233	,033	,119	-,596	,130
4	1	,333	,120	,655	-,975	1,642
	2	,167	,145	1,000	-1,415	1,748
	3	,233	,033	,119	-,130	,596

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

F1

a. Uji Normalitas

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_0	,253	3	.	,964	3	,637
Standardized Residual for Hari_30	,292	3	.	,923	3	,463
Standardized Residual for Hari_60	,253	3	.	,964	3	,637
Standardized Residual for Hari_90	,175	3	.	1,000	3	1,000

a. Lilliefors Significance Correction

Ketentuan :

Sig >0,05 = Normal

b. Uji Homogenitas

Mauchly's Test of Sphericity[a]

Measure: Daya_Sebar

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser	Huynh-Feldt	Lower-bound
F1	,018	6,941	5	,290	,432	,622	,333

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept

Within Subjects Design: F1

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Ketentuan :

Sig >0,05 = Homogen

c. Uji Repeated Measures Anova

Tests of Within-Subjects Effects

Measure: Daya_Sebar

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
F1	Sphericity Assumed	,297	3	,099	12,276	,006
	Greenhouse-Geisser	,297	1,207	,246	12,276	,055
	Huynh-Feldt	,297	2,042	,145	12,276	,019
	Lower-bound	,297	1,000	,297	12,276	,073
Error(F1)	Sphericity Assumed	,048	6	,008		
	Greenhouse-Geisser	,048	2,413	,020		
	Huynh-Feldt	,048	4,083	,012		
	Lower-bound	,048	2,000	,024		

Ketentuan :

Sig >0,05 = tidak terdapat perbedaan bermakna.

Pairwise Comparisons

Measure: Daya_Sebar

(I) F1	(J) F1	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b] Lower Bound	Upper Bound
1	2	-,167	,033	,226	-,530	,196
	3	-,267	,088	,565	-1,227	,693
	4	-,433*	,033	,035	-,796	-,070
2	1	,167	,033	,226	-,196	,530
	3	-,100	,115	1,000	-1,357	1,157
	4	-,267	,067	,343	-,992	,459
3	1	,267	,088	,565	-,693	1,227
	2	,100	,115	1,000	-1,157	1,357
	4	-,167	,067	,778	-,892	,559
4	1	,433*	,033	,035	,070	,796
	2	,267	,067	,343	-,459	,992
	3	,167	,067	,778	-,559	,892

Based on estimated marginal means

*. The mean difference is significant at the ,05 level.

b. Adjustment for multiple comparisons: Bonferroni.

F2

a. Uji Normalitas

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_0	,175	3	.	1,000	3	1,000
Standardized Residual for Hari_30	,253	3	.	,964	3	,637
Standardized Residual for Hari_60	,175	3	.	1,000	3	1,000
Standardized Residual for Hari_90	,292	3	.	,923	3	,463

a. Lilliefors Significance Correction

Ketentuan :

Sig >0,05 = Normal

b. Uji Homogenitas

Mauchly's Test of Sphericity[a]

Measure: Daya_Sebar

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser	Huynh-Feldt	Lower-bound
F2	,024	6,432	5	,333	,462	,732	,333

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept

Within Subjects Design: F2

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Ketentuan :

Sig >0,05 = Homogen

c. Uji Repeated Measures Anova

Tests of Within-Subjects Effects

Measure: Daya_Sebar

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
F2	Sphericity Assumed	,353	3	,118	15,143	,067
	Greenhouse-Geisser	,353	1,140	,310	15,143	,049
	Huynh-Feldt	,353	1,649	,214	15,143	,023
	Lower-bound	,353	1,000	,353	15,143	,060
Error(F2)	Sphericity Assumed	,047	6	,008		
	Greenhouse-Geisser	,047	2,279	,020		
	Huynh-Feldt	,047	3,297	,014		
	Lower-bound	,047	2,000	,023		

Ketentuan :

Sig >0,05 = tidak terdapat perbedaan bermakna.

Pairwise Comparisons

Measure: Daya_Sebar

(I) F2	(J) F2	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a] Lower Bound	Upper Bound
1	2	-,233	,033	,119	-,596	,130
	3	-,400	,058	,121	-1,028	,228
	4	-,433	,067	,137	-1,159	,292
2	1	,233	,033	,119	-,130	,596
	3	-,167	,067	,778	-,892	,559
	4	-,200	,058	,445	-,828	,428
3	1	,400	,058	,121	-,228	1,028
	2	,167	,067	,778	-,559	,892
	4	-,033	,120	1,000	-1,342	1,275
4	1	,433	,067	,137	-,292	1,159
	2	,200	,058	,445	-,428	,828
	3	,033	,120	1,000	-1,275	1,342

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

F3

a. Uji Normalitas

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_0	,175	3	.	1,000	3	1,000
Standardized Residual for Hari_30	,253	3	.	,964	3	,637
Standardized Residual for Hari_60	,292	3	.	,923	3	,463
Standardized Residual for Hari_90	,292	3	.	,923	3	,463

a. Lilliefors Significance Correction

Ketentuan :

Sig >0,05 = Normal

b. Uji Homoegenitas

Mauchly's Test of Sphericity[a]

Measure: Daya_Sebar

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser	Huynh-Feldt	Lower-bound
F3	,003	10,027	5	,117	,665	1,000	,333

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept

Within Subjects Design: F3

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Ketentuan :

Sig >0,05 = Homogen

c. Uji Repeated Measures Anova

Tests of Within-Subjects Effects

Measure: Daya_Sebar

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
F3	Sphericity Assumed	,309	3	,103	21,824	,182
	Greenhouse-Geisser	,309	1,993	,155	21,824	,007
	Huynh-Feldt	,309	3,000	,103	21,824	,001
	Lower-bound	,309	1,000	,309	21,824	,043
Error(F3)	Sphericity Assumed	,028	6	,005		
	Greenhouse-Geisser	,028	3,986	,007		
	Huynh-Feldt	,028	6,000	,005		
	Lower-bound	,028	2,000	,014		

Ketentuan :

Sig >0,05 = tidak terdapat perbedaan bermakna.

Pairwise Comparisons

Measure: Daya_Sebar

(I) F3	(J) F3	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a] Lower Bound	Upper Bound
1	2	-,133	,033	,343	-,496	,230
	3	-,267	,067	,343	-,992	,459
	4	-,433	,067	,137	-1,159	,292
2	1	,133	,033	,343	-,230	,496
	3	-,133	,033	,343	-,496	,230
	4	-,300	,058	,211	-,928	,328
3	1	,267	,067	,343	-,459	,992
	2	,133	,033	,343	-,230	,496
	4	-,167	,067	,778	-,892	,559
4	1	,433	,067	,137	-,292	1,159
	2	,300	,058	,211	-,328	,928
	3	,167	,067	,778	-,559	,892

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

3. Hasil Uji Viskositas

F0

a. Uji Normalitas

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_0	,296	3	.	,918	3	,446
Standardized Residual for Hari_30	,204	3	.	,993	3	,843
Standardized Residual for Hari_60	,215	3	.	,989	3	,800
Standardized Residual for Hari_90	,246	3	.	,970	3	,668

a. Lilliefors Significance Correction

Ketentuan :

Sig >0,05 = Normal

b. Uji Homogenitas

Mauchly's Test of Sphericity[a]

Measure: Viskositas

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser	Huynh-Feldt	Lower-bound
F0	,020	6,757	5	,305	,658	1,000	,333

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept

Within Subjects Design: F0

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Ketentuan :

Sig >0,05 = Homogen

c. Uji Repeated Measures Anova

Tests of Within-Subjects Effects

Measure: Viskositas

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
F0	Sphericity Assumed	89800,000	3	29933,333	4,558	,054
	Greenhouse-Geisser	89800,000	1,360	66021,245	4,558	,134
	Huynh-Feldt	89800,000	3,000	29933,333	4,558	,054
	Lower-bound	89800,000	1,000	89800,000	4,558	,166
Error(F0)	Sphericity Assumed	39400,000	6	6566,667		
	Greenhouse-Geisser	39400,000	2,720	14483,503		
	Huynh-Feldt	39400,000	6,000	6566,667		
	Lower-bound	39400,000	2,000	19700,000		

Ketentuan :

Sig >0,05 = tidak terdapat perbedaan bermakna.

Pairwise Comparisons

Measure: Viskositas

(I) F0	(J) F0	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[b] Lower Bound	Upper Bound
1	2	106,667	14,530	,294	-51,501	264,835
	3	203,333	8,819	,095	107,329	299,338
	4	313,333	18,559	,192	111,300	515,366
2	1	-106,667	14,530	,294	-264,835	51,501
	3	96,667	18,559	,563	-105,366	298,700
	4	206,667	24,037	,296	-54,997	468,330
3	1	-203,333	8,819	,095	-299,338	-107,329
	2	-96,667	18,559	,563	-298,700	105,366
	4	110,000	10,000	,462	1,141	218,859
4	1	-313,333	18,559	,192	-515,366	-111,300
	2	-206,667	24,037	,296	-468,330	54,997
	3	-110,000	10,000	,462	-218,859	-1,141

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

F1

a. Uji Normalitas

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_0	,323	3	.	,879	3	,321
Standardized Residual for Hari_30	,216	3	.	,988	3	,794
Standardized Residual for Hari_60	,196	3	.	,996	3	,878
Standardized Residual for Hari_90	,235	3	.	,978	3	,716

a. Lilliefors Significance Correction

Ketentuan :

Sig >0,05 = Normal

b. Uji Homogenitas

Mauchly's Test of Sphericity[a]

Measure: Viskositas

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser	Huynh-Feldt	Lower-bound
F1	,010	7,923	5	,220	,436	,636	,333

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept

Within Subjects Design: F1

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Ketentuan :

Sig >0,05 = Homogen

c. Uji Repeated Measures Anova

Tests of Within-Subjects Effects

Measure: Viskositas

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
F1	Sphericity Assumed	127425,000	3	42475,000	56,011	,000
	Greenhouse-Geisser	127425,000	1,430	89079,015	56,011	,005
	Huynh-Feldt	127425,000	3,000	42475,000	56,011	,000
	Lower-bound	127425,000	1,000	127425,000	56,011	,017
Error(F1)	Sphericity Assumed	4550,000	6	758,333		
	Greenhouse-Geisser	4550,000	2,861	1590,385		
	Huynh-Feldt	4550,000	6,000	758,333		
	Lower-bound	4550,000	2,000	2275,000		

Ketentuan :

Sig >0,05 = tidak terdapat perbedaan bermakna.

Pairwise Comparisons

Measure: Viskositas

(I) F1	(J) F1	Mean Difference (I-J)	Std. Error	Sig.[b]	95% Confidence Interval for Difference[b] Lower Bound	Upper Bound
1	2	130,000	23,094	,181	-121,398	381,398
	3	210,000	35,119	,161	-172,299	592,299
	4	276,667*	18,559	,027	74,634	478,700
2	1	-130,000	23,094	,181	-381,398	121,398
	3	80,000	20,817	,369	-146,607	306,607
	4	146,667	14,530	,058	-11,501	304,835
3	1	-210,000	35,119	,161	-592,299	172,299
	2	-80,000	20,817	,369	-306,607	146,607
	4	66,667	16,667	,343	-114,764	248,098
4	1	-276,667*	18,559	,027	-478,700	-74,634
	2	-146,667	14,530	,058	-304,835	11,501
	3	-66,667	16,667	,343	-248,098	114,764

Based on estimated marginal means

*. The mean difference is significant at the ,05 level.

b. Adjustment for multiple comparisons: Bonferroni.

F2

a. Uji Normalitas

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_0	,216	3	.	,988	3	,794
Standardized Residual for Hari_30	,260	3	.	,959	3	,609
Standardized Residual for Hari_60	,212	3	.	,990	3	,811
Standardized Residual for Hari_90	,216	3	.	,988	3	,794

a. Lilliefors Significance Correction

Ketentuan :

Sig >0,05 = Normal

b. Uji Homogenitas

Mauchly's Test of Sphericity[a]

Measure: Viskositas

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse -Geisser	Huynh-Feldt	Lower-bound
F2	,557	1,009	5	,968	,728	1,000	,333

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept

Within Subjects Design: F2

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Ketentuan :

Sig >0,05 = Homogen

c. Uji Repeated Measures Anova

Tests of Within-Subjects Effects

Measure: Viskositas

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
F2	Sphericity Assumed	162291,667	3	54097,222	16,324	,003
	Greenhouse-Geisser	162291,667	1,125	144299,258	16,324	,046
	Huynh-Feldt	162291,667	1,570	103383,663	16,324	,023
	Lower-bound	162291,667	1,000	162291,667	16,324	,056
Error(F2)	Sphericity Assumed	19883,333	6	3313,889		
	Greenhouse-Geisser	19883,333	2,249	8839,487		
	Huynh-Feldt	19883,333	3,140	6333,079		
	Lower-bound	19883,333	2,000	9941,667		

Ketentuan :

Sig >0,05 = tidak terdapat perbedaan bermakna.

Pairwise Comparisons

Measure: Viskositas

(I) F2	(J) F2	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a] Lower Bound	Upper Bound
1	2	60,000	20,817	,613	-166,607	286,607
	3	163,333	20,276	,090	-57,387	384,054
	4	240,000*	9,667	,005	160,761	305,906
2	1	-60,000	20,817	,613	-286,607	166,607
	3	103,333	26,034	,348	-180,071	386,738
	4	180,000	20,817	,079	-46,607	406,607
3	1	-163,333	20,276	,090	-384,054	57,387
	2	-103,333	26,034	,348	-386,738	180,071
	4	76,667	20,276	,380	-144,054	297,387
4	1	-240,000*	9,667	,005	-305,906	-160,761
	2	-180,000	20,817	,079	-406,607	46,607
	3	-76,667	20,276	,380	-297,387	144,054

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

F3

a. Uji Normalitas

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Standardized Residual for Hari_0	,333	3	.	,861	3	,269
Standardized Residual for Hari_30	,225	3	.	,984	3	,756
Standardized Residual for Hari_60	,229	3	.	,981	3	,739
Standardized Residual for Hari_90	,179	3	.	,999	3	,948

a. Lilliefors Significance Correction

Ketentuan :

Sig >0,05 = Normal

b. Uji Homogenitas

Mauchly's Test of Sphericity[a]

Measure: Viskositas

Within Subjects Effect	Mauchly's W	Approx. Chi-Square	df	Sig.	Epsilon[b] Greenhouse-Geisser	Huynh-Feldt	Lower-bound
F3	,101	3,955	5	,611	,447	,677	,333

Tests the null hypothesis that the error covariance matrix of the orthonormalized transformed dependent variables is proportional to an identity matrix.

a. Design: Intercept

Within Subjects Design: F3

b. May be used to adjust the degrees of freedom for the averaged tests of significance. Corrected tests are displayed in the Tests of Within-Subjects Effects table.

Ketentuan :

Sig >0,05 = Homogen

c. Uji Repeated Measures Anova

Tests of Within-Subjects Effects

Measure: Viskositas

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
F3	Sphericity Assumed	167500,000	3	55833,333	48,201	,057
	Greenhouse-Geisser	167500,000	1,233	135874,308	48,201	,011
	Huynh-Feldt	167500,000	2,213	75672,972	48,201	,001
	Lower-bound	167500,000	1,000	167500,000	48,201	,020
Error(F3)	Sphericity Assumed	6950,000	6	1158,333		
	Greenhouse-Geisser	6950,000	2,466	2818,885		
	Huynh-Feldt	6950,000	4,427	1569,932		
	Lower-bound	6950,000	2,000	3475,000		

Ketentuan :

Sig >0,05 = tidak terdapat perbedaan bermakna.

Pairwise Comparisons

Measure: Viskositas

(I) F3	(J) F3	Mean Difference (I-J)	Std. Error	Sig.[a]	95% Confidence Interval for Difference[a] Lower Bound	Upper Bound
1	2	130,000	26,458	,234	-158,013	418,013
	3	223,333	33,830	,133	-144,932	591,598
	4	320,000	43,589	,108	-154,504	794,504
2	1	-130,000	26,458	,234	-418,013	158,013
	3	93,333	17,638	,203	-98,675	285,342
	4	190,000	20,000	,065	-27,717	407,717
3	1	-223,333	33,830	,133	-591,598	144,932
	2	-93,333	17,638	,203	-285,342	98,675
	4	96,667	13,333	,111	-48,478	241,812
4	1	-320,000	43,589	,108	-794,504	154,504
	2	-190,000	20,000	,065	-407,717	27,717
	3	-96,667	13,333	,111	-241,812	48,478

Based on estimated marginal means

a. Adjustment for multiple comparisons: Bonferroni.

Lampiram 8. Pengujian Sediaan Deodoran *Roll On*

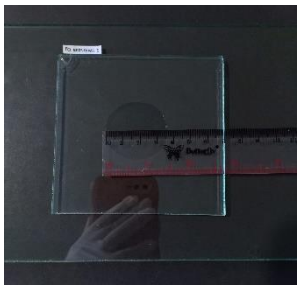
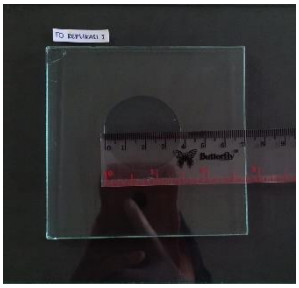
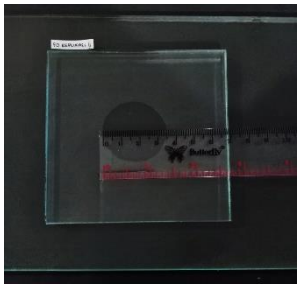
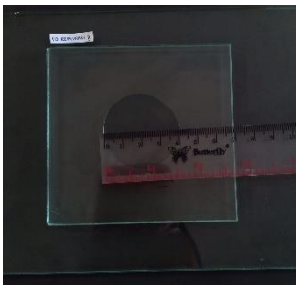
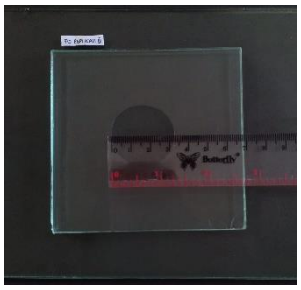
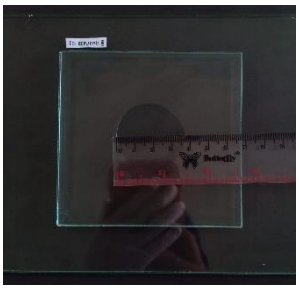
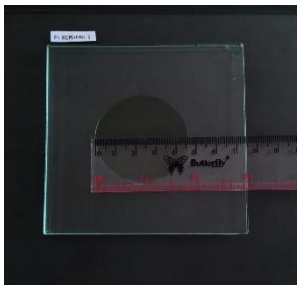
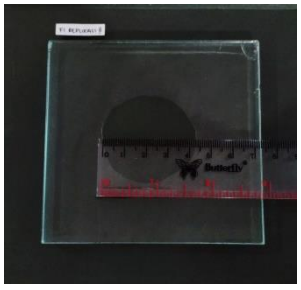
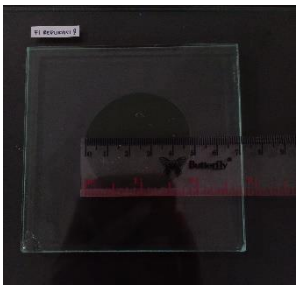
1. Uji pH

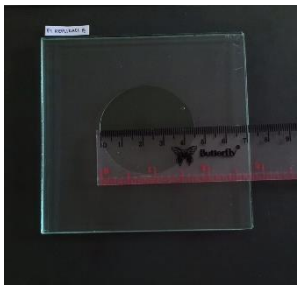
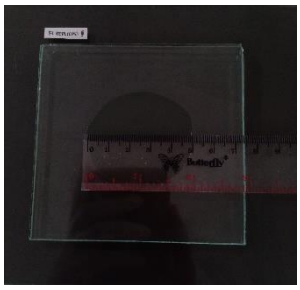
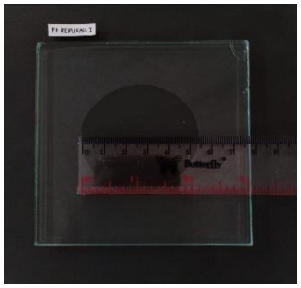
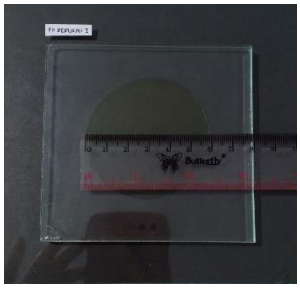
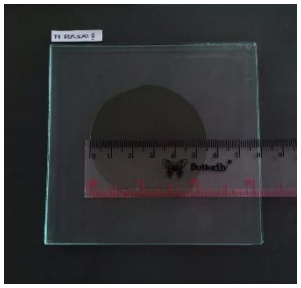
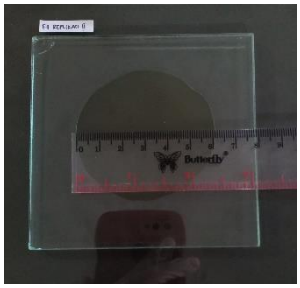
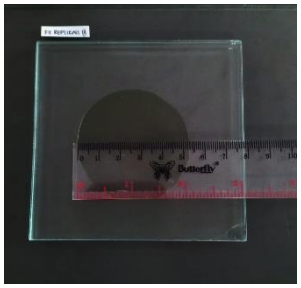
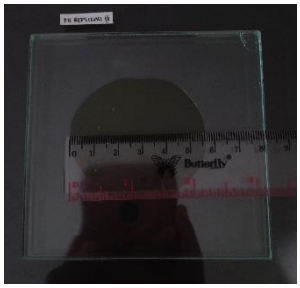
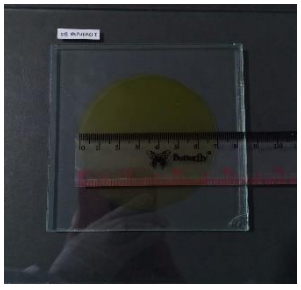
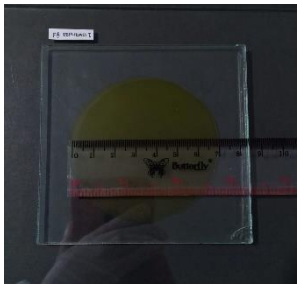
Formulasi/ Replikasi	Hari Ke-	
	Sebelum (0)	Sesudah (90)
F0 (1)		
F0 (2)		
F0 (3)		
F1 (1)		

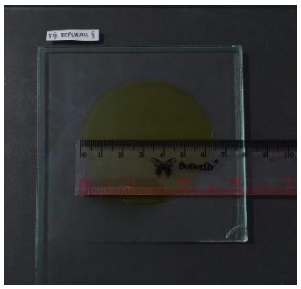
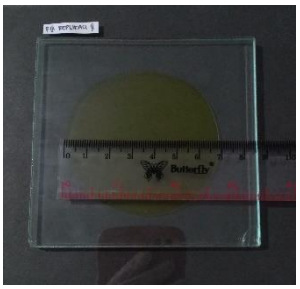
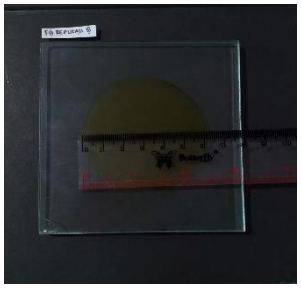
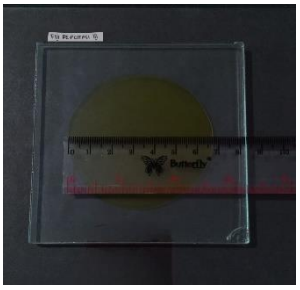
F1 (2)		
F1 (3)		
F2 (1)		
F2 (2)		
F2 (3)		

F3 (1)		
F3 (2)		
F3 (3)		

2. Uji Daya Sebar

Formulasi/ Replikasi	Hari Ke-	
	Sebelum (0)	Sesudah (90)
F0 (1)		
F0 (2)		
F0 (3)		
F1 (1)		
F1 (2)		

F1 (3)		
F2 (1)		
F2 (2)		
F2 (3)		
F3 (1)		

F3 (2)		
F3 (3)		

3. Uji Viskositas

Formulasi/ Replikasi	Hari Ke-	
	Sebelum (0)	Sesudah (90)
F0 (1)		
F0 (2)		
F0 (3)		
F1 (1)		
F1 (2)		

F1 (3)		
F2 (1)		
F2 (2)		
F2 (3)		
F3 (1)		

F3 (2)	 RV BROOKFIELD AMETEK 00:01:00 2600 RV-06 100	 RV BROOKFIELD AMETEK 00:01:00 2350 RV-06 100
F3 (3)	 RV BROOKFIELD AMETEK 00:01:00 2880 RV-06 100	 RV BROOKFIELD AMETEK 00:01:00 2570 RV-06 100

Lampiran 9. Jadwal Penyusunan Karya Tulis Ilmiah

JADWAL PENYUSUNAN KARYA TULIS ILMIAH (KTI)

STUDI FORMULASI DAN STABILITAS SEDIAAN DEODORAN *ROLL ON*

EKSTRAK DAUN KELOR (*Moringa oleifera* L.)

No	Kegiatan	September				Oktober				November				Desember				Januari				Februari				Maret				April				Mei				Juni			
		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
1.	Identifikasi Masalah																																								
2.	Penyususnan Proposal																																								
3.	Pengumpulan Proposal																																								
4.	Ujian Proposal																																								
5.	Perbaikan Proposal																																								
6.	Pengurusan Izin Penelitian																																								
7.	Pengumpulan Data																																								
8.	Analisis Data																																								
9.	Penyusunan Laporan																																								
10.	Ujian Sidang KTI																																								
11.	Perbaikan dan Pengadaan																																								
12.	Pengumpulan KTI																																								

Lamongan, 20 Mei 2024

Penyusun,

AULIA ZUKHRUF KHOIRUN NISA

NIM. 21.02.05.0366