

Lampiran 1. Surat Pernyataan Bebas Plagiasi**PERNYATAAN**

Yang bertanda tangan di bawah ini,

Nama : Salta Wulandari

NIM : 201FF03028

adalah mahasiswa Prodi S1 Farmasi, Fakultas Farmasi, Universitas Bhakti Kencana, menyatakan dengan sesungguhnya bahwa Naskah Tugas Akhir/Skripsi yang saya tulis dengan judul:

Formulasi Dan Evaluasi *Lotion* Tabir Surya Dari Titanium Dioksida (TiO₂)

Dan Ekstrak Daun Kersen (*Muntingia calabura* L) sebagai Antioksidan

adalah benar-benar merupakan hasil karya saya sendiri. Apabila di kemudian hari diketahui bahwa isi Naskah Skripsi ini merupakan hasil plagiasi, maka saya bersedia menerima sanksi berupa pembatalan kelulusan dan atau pencabutan gelar yang saya peroleh.

Demikian surat pernyataan ini saya buat untuk dapat dipergunakan sebagaimana mestinya.

Bandung, 10 Juli 2024

Yang membuat pernyataan,

Salta Wulandari

NIM. 201FF03028

Lampiran 2. Kartu Bimbingan



Dok. No. 02.64.00/FRM-03/AKD-SPMI

Jl. Soekarno Hatta No 754 Bandung
022 7830 760, 022 7830 768
bku.ac.id contact@bku.ac.id

KARTU BIMBINGAN TUGAS AKHIR

Pembimbing Utama	apt. YANNI DHIANI MARDHIANI, M.Sc.
Nama Mahasiswa	Salta Wulandari
NPM	201FF03028
Bidang Ilmu	Farmasetika Dan Teknologi Farmasi (FTF)

No	Hari/Tanggal	Waktu	Tempat	Materi	Paraf Dosen
1.	Kamis, 19 Oktober 2023	11.30	Google meet/ Online	Pengajuan dan Pemilihan Tema dan Judul	
2.	Senin, 30 Oktober 2023	13.00	Online	Pengajuan Judul Skripsi	
3.	Senin, 6 November 2023	07.40	Online	Penentuan Ekstrak yang akan digunakan	
4.	Jumat, 10 November 2023	11.00	Google meet/ Online	Penentuan/ Fiksasi Judul dan Tema	
5.	Minggu, 26 November 2023	17.50	Online	Penentuan/ Fiksasi Judul dan Tema	
6.	Senin, 27 November 2023	11.00	Online	Diskusi mengenai Prosedur pembuatan	
7.	Sabtu, 6 Desember 2023	15.30	Online	Diskusi melakukan skrinning Fitokimia	
8.	Kamis, 14 Desember 2023	09.00	Google meet/ Online	Revisi mengenai Bab 3	
9.	Rabu, 10 Januari 2024	10.30	Offline	Revisi Draft Proposal, dan ttd basah	
10.	Kamis, 11 Januari 2024	09.00	Online	Diskusi mengenai Optimasi Formula dan prosedur Pembuatan	
11.	Senin, 29 April 2024	09. 30	Online	Progresan penelitian Laporan kemajuan 1 Tugas akhir II	
12.	Senin, 29 April 2024	09. 30	Online	Progresan penelitian Laporan kemajuan 1 Tugas akhir II	
13.	Jum'at, 1 Maret 2024	12.30	Online	Diskusi mengenai pembelian Bahan – bahan yang akan digunakan	
14.	Selasa, 5 Maret 2024	13.00	Online	Diskusi mengenai Penggunaan Spektro	
15.	Jum'at 22 Maret 2024	13.00	Online	Memfiksasi Formula yang akan digunakan	
16.	Rabu, 24 April 2024	11.30	Online	Diskusi mengenai Uji Stabilitas yang akan dilakukan	

No	Hari/Tanggal	Waktu	Tempat	Materi	Paraf Dosen
17.	Kamis, 2 Mei 2024	10.00	Online	Diskusi mengenai Pengujian SPF	
18.	Kamis, 16 Mei 2024	10.00	Online	Diskusi mengenai penggunaan Hewan Uji	
19.	Senin, 03 Juni 2024	11.00	Online	Diskusi mengenai Uji Stabilitas dan Uji Aktivitas Sediaan	
20.	Senin, 10 Juni 2024	14.00	Online	Diskusi mengenai Pengujian Aktivitas Antioksidan	
21.	Rabu, 12 Juni 2024	16.00	Offline	Diskusi mengenai Uji Iritasi dan pembahasan Uji Stabilitas dan Uji Aktivitas	
22.	Rabu, 10 Juli 2024	13.30	Offline	Diskusi mengenai BAB IV Hasil dan Pembahasan	
23.	Jum'at, 12 Juli 2024	10.30	Offline	Diskusi mengenai BAB IV Hasil dan Pembahasan dan Tanda tangan Basah	

Catatan : Kartu ini harus dibawa setiap kali melakukan bimbingan dan harus diisi oleh dosen pembimbing



KARTU BIMBINGAN TUGAS AKHIR

Pembimbing Utama	Dr. Apt. Dadih Supriadi, M.Si.
Nama Mahasiswa	Salta Wulandari
NPM	201FF03028
Bidang Ilmu	Farmasetika Dan Teknologi Farmasi (FTF)

No	Hari/Tanggal	Waktu	Tempat	Materi	Paraf Dosen
1.	Rabu, 15 November 2023		Google drive	Penyampaian Bab 1 pendahuluan : latar belakang dan Jurnal Acuan	
2.	Kamis, 16 November 2023		Google drive	Revisi Bab 1 pendahuluan : latar belakang	
3.	Jum'at, 17 November 2023		Google drive	Revisi Bab 1 pendahuluan : latar belakang	
4.	Jumat, 17 November 2023		Google drive	Revisi Bab 1 pendahuluan : latar belakang, dan Laporan Kemajuan 1	
5.	Sabtu, 16 Desember 2023		Google drive	Revisi bab 2 Tinjauan Pustaka	
6.	Rabu, 20 Desember 2023		Online/zoom	Revisi dan Diskusi mengenai bab 3	
7.	Rabu, 27 Desember 2023		Google drive	Revisi dan ttd mengenai laporan kemajuan	
8.	Rabu, 10 Januari 2024	12.30	Offline	Revisi Draft Proposal dan ttd basah	
9.	Rabu, 21 Februari 2024	13.30	Offline	Diskusi terkait penelitian	
10.	Rabu, 20 Maret 2024	13.30	Offline	Diskusi mengenai Bahan – bahan yang akan digunakan	
11.	Selasa, 23 April 2024	15.30	Offline	Progresan penelitian Laporan kemajuan 1 Tugas akhir II	
12.	Kamis, 25 April 2024	13.00	Offline	Diskusi mengenai pengujian Aktivitas Antioksidan	
13.	Senin, 20 Mei 2024	11.30	Offline	Diskusi mengenai Uji Stabilitas	

No	Hari/Tanggal	Waktu	Tempat	Materi	Paraf Dosen
14.	Kamis , 06 Juni 2024	13.30	Offline	Diskusi mengenai Uji Iritasi	
15.	Rabu, 12 Juni 2024	14.30	Offline	Diskusi mengenai Hasil dari Uji Aktivitas	
16.	Rabu, 10 Juli 2024	14.00	Offline	Diskusi Hasil dan Pembahasan dan Tanda tangan Basah	
17.	Kamis, 11 Juli 2024	-	Google Drive	Diskusi Draft Proposal	

Catatan : Kartu ini harus dibawa setiap kali melakukan bimbingan dan harus diisi oleh dosen pembimbing



Lampiran 3. Surat Determinasi Ekstrak



Yogyakarta, 11 Juli 2024

No. : 144/LHD/07/2024
Hal : Hasil Determinasi

Kepada Yth.
Salta Wulandari
NIM : 201FF03028
Fakultas Farmasi Universitas Bhakti Kencana

Dengan hormat,
Bersama ini disampaikan hasil determinasi tumbuhan sesuai permintaan sebagai berikut:

No.	Nama jenis	Nama Lokal
1.	<i>Muntingia calabura</i> L.	Kersen, Talok

Kunci Determinasi:

1b-2b-3b-4b-6b-7b-9b-10b-11b-12b-13b-14a-15a-Golongan 8. Tanaman dengan daun tunggal dan tersebar. 109b-119b-120b-128b-129b-135b-136b-139b-140b-142b-143b-146b-154b-156b-162b-163b-167b-169b-171b-177b-179b-180b-182b-183b-184b-185b-186b-187a-188b- famili 74. Tiliaceae..... Genus 1. Muntingia..... Species : *Muntingia calabura* L. (Kersen)

Klasifikasi Tanaman :

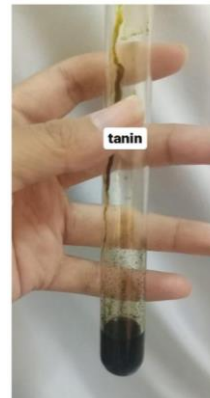
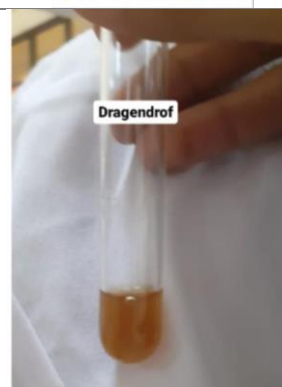
Kingdom : Plantae
Subkingdom : Tracheobionta
Superdivisi : Spermatophyta
Divisi : Magnoliophyta
Kelas : Magnoliopsida
Ordo : Malvales
Famili : Muntingiaceae
Genus : Muntingia L.
Spesies : *Muntingia calabura* L.

Demikian semoga berguna bagi saudara.

Divisi Teknik Galenika


Apriyani Susilowati, S.Si.

Lampiran 4. Hasil Skrinning Fitokimia

Flavonoid (+)**Tanin (+)****Saponin (+)****Alkaloid (Dragendroff) (-)**

Alkaloid (Mayer) (+)



Alkaloid (Wagner) (+)



Steroid (-)



Lampiran 5. Hasil Evaluasi Optimasi Basis *Lotion*

Uji Organoleptik

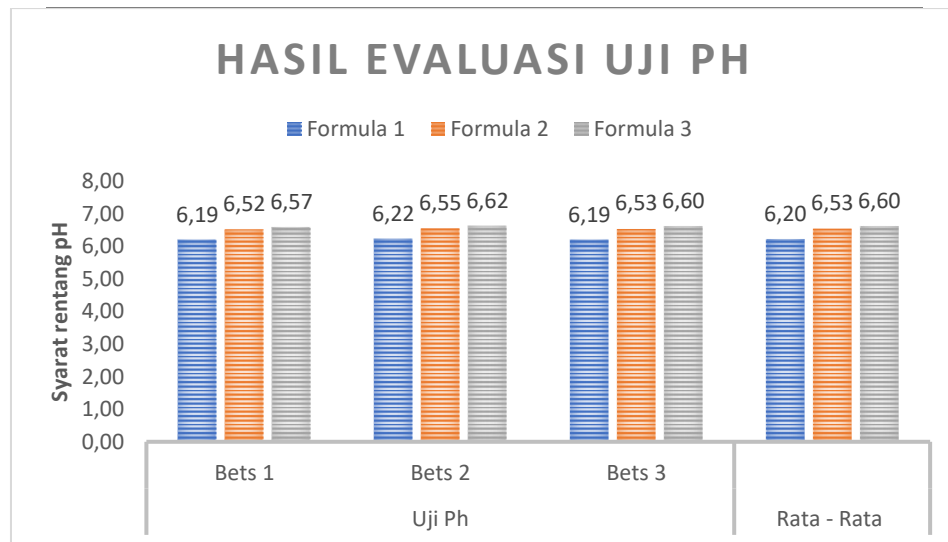
Formula	Uji Organoleptis			
	Parameter			
	Bets	Bentuk	Warna	Aroma
F1	1	Kental	Putih	Tidak Ada
	2	Kental	Putih	Tidak Ada
	3	Kental	Putih	Tidak Ada
F2	1	Kental	Putih	Tidak Ada
	2	Kental	Putih	Tidak Ada
	3	Kental	Putih	Tidak Ada
F3	1	Kental	Putih	Tidak Ada
	2	Kental	Putih	Tidak Ada
	3	Kental	Putih	Tidak Ada

Uji Homogenitas

Uji Homogenitas			
Replikasi	F1	F2	F3
1	Homogen	Homogen	Homogen
2	Homogen	Homogen	Homogen
3	Homogen	Homogen	Homogen

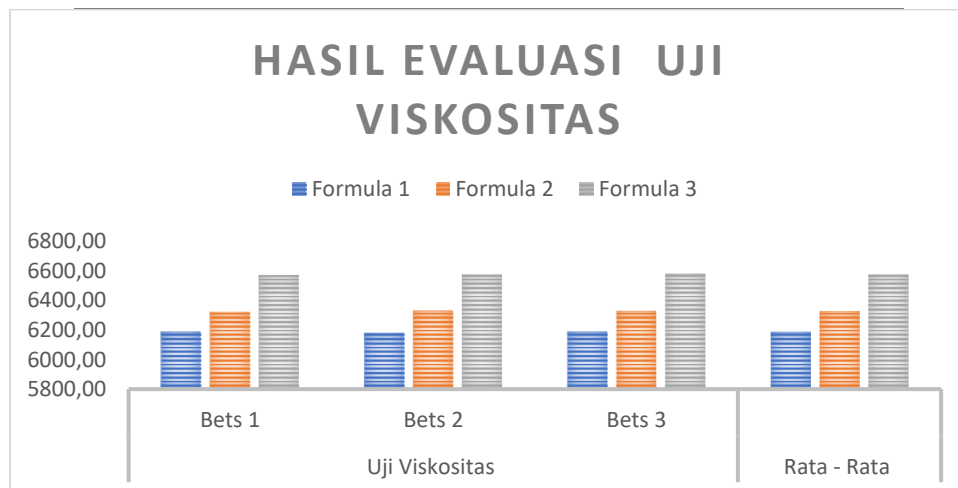
Uji Pengukuran pH

Pengukuran Uji pH			
Replikasi	F1	F2	F3
1	6.19	6.52	6.57
2	6.22	6.55	6.62
3	6.19	6.53	6.60
Rata - Rata $\pm$ sd	6.20 $\pm$ 0.02	6.53 $\pm$ 0.02	6.60 $\pm$ 0.03



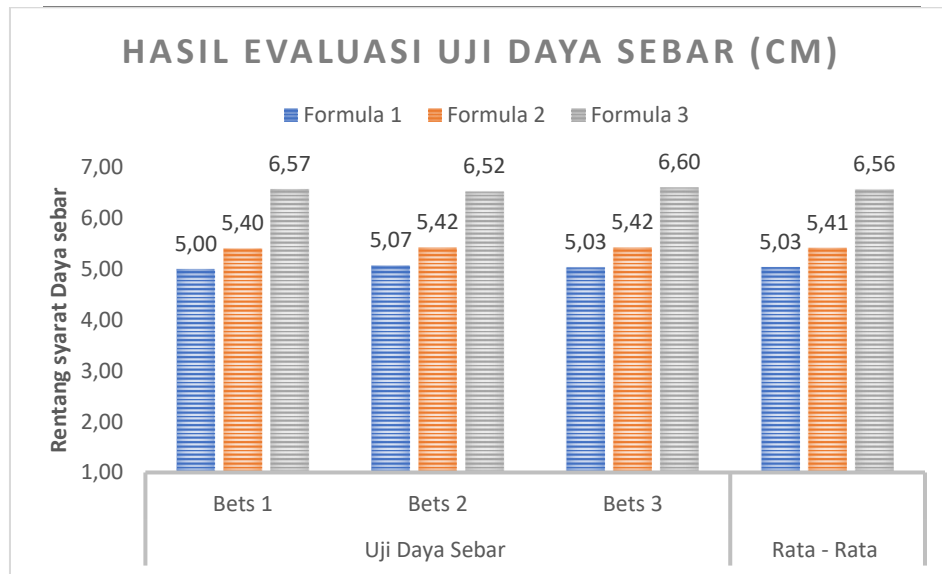
Uji Pengukuran Viskositas

Pengukuran Uji Viskositas			
Replikasi	F1	F2	F3
1	6190.00	6180.00	6190.00
2	6320.00	6330.00	6327.00
3	6570.00	6573.00	6580.00
Rata - Rata $\pm$ sd	6186 $\pm$ 5.77	6325 $\pm$ 5.13	6574 $\pm$ 5.13



Uji Pengukuran Daya sebar (cm)

Pengukura Uji Daya sebar (cm)			
Repikasi	F1	F2	F3
1	5.00	5.40	6.57
2	5.07	5.42	6.52
3	5.03	5.42	6.60
Rata - Rata $\pm$ sd	5.03 $\pm$ 0.04	5.41 $\pm$ 0.01	6.56 $\pm$ 0.04



Lampiran 6. Hasil pengujian Organoleptik 28 Hari (*real time*) pada suhu ruang

Uji Organoleptik						
Hari ke	Pengamatan	F0	F1	F2	F3	F4
0	Warna	Putih	Hijau Muda	Hijau	Hijau Tua	Hijau Pekat
	Aroma	Bau Khas Aromatik	Bau Khas Aromatik	Bau Khas Aromatik	Bau Khas Aromatik	Bau Khas Aromatik
	Bentuk	Kental	Kental	Kental	Kental	Kental
7	Warna	Putih	Hijau Muda	Hijau	Hijau Tua	Hijau Pekat
	Aroma	Bau Khas Aromatik	Bau Khas Aromatik	Bau Khas Aromatik	Bau Khas Aromatik	Bau Khas Aromatik
	Bentuk	Kental	Kental	Kental	Kental	Kental
14	Warna	Putih	Hijau Muda	Hijau	Hijau Tua	Hijau Pekat
	Aroma	Bau Khas Aromatik	Bau Khas Aromatik	Bau Khas Aromatik	Bau Khas Aromatik	Bau Khas Aromatik
	Bentuk	Kental	Kental	Kental	Kental	Kental
21	Warna	Putih	Hijau Muda	Hijau	Hijau Tua	Hijau Pekat
	Aroma	Bau Khas Aromatik	Bau Khas Aromatik	Bau Khas Aromatik	Bau Khas Aromatik	Bau Khas Aromatik
	Bentuk	Kental	Kental	Kental	Kental	Kental
28	Warna	Putih	Hijau Muda	Hijau	Hijau Tua	Hijau Pekat
	Aroma	Bau Khas Aromatik	Bau Khas Aromatik	Bau Khas Aromatik	Bau Khas Aromatik	Bau Khas Aromatik
	Bentuk	Kental	Kental	Kental	Kental	Kental

Lampiran 7. Hasil pengujian Homogenitas 28 Hari (*real time*) pada suhu ruang

Uji Homogenitas					
Hari ke -	Homogenitas				
	F0	F1	F2	F3	F4
0	Homogen	Homogen	Homogen	Homogen	Homogen
7	Homogen	Homogen	Homogen	Homogen	Homogen
14	Homogen	Homogen	Homogen	Homogen	Homogen
21	Homogen	Homogen	Homogen	Homogen	Homogen
28	Homogen	Homogen	Homogen	Homogen	Homogen

Lampiran 8. Hasil pengukuran pH 28 Hari (*real time*) pada suhu ruang

Formula	Hari Ke-	Replikasi			Rata - Rata	SD	Rata - Rata $\pm$ SD
		1	2	3			
F0	0	6.70	6.72	6.73	6.72	0.02	6.72 $\pm$ 0.02
	7	6.65	6.62	6.64	6.64	0.02	6.64 $\pm$ 0.02
	14	6.56	6.55	6.54	6.55	0.01	6.55 $\pm$ 0.01
	21	6.50	6.50	6.52	6.51	0.01	6.51 $\pm$ 0.01
	28	6.41	6.41	6.40	6.41	0.01	6.41 $\pm$ 0.01
F1	0	6.38	6.35	6.36	6.36	0.02	6.36 $\pm$ 0.02
	7	6.35	6.35	6.36	6.35	0.01	6.35 $\pm$ 0.01
	14	6.22	6.25	6.24	6.24	0.02	6.24 $\pm$ 0.02
	21	6.20	6.23	6.23	6.22	0.02	6.22 $\pm$ 0.02
	28	6.23	6.22	6.21	6.22	0.01	6.22 $\pm$ 0.01
F2	0	6.58	6.55	6.54	6.56	0.02	6.56 $\pm$ 0.02
	7	6.43	6.42	6.45	6.43	0.02	6.43 $\pm$ 0.02
	14	6.42	6.42	6.45	6.43	0.02	6.43 $\pm$ 0.02
	21	6.39	6.38	6.35	6.37	0.02	6.37 $\pm$ 0.02
	28	6.37	6.35	6.38	6.37	0.02	6.37 $\pm$ 0.02
F3	0	6.20	6.18	6.18	6.19	0.01	6.19 $\pm$ 0.01
	7	6.15	6.12	6.13	6.13	0.02	6.13 $\pm$ 0.02
	14	6.10	6.1	6.12	6.11	0.01	6.11 $\pm$ 0.01
	21	6.09	6.08	6.08	6.08	0.01	6.08 $\pm$ 0.01
	28	6.08	6.10	6.07	6.08	0.02	6.08 $\pm$ 0.02
F4	0	6.08	6.08	6.09	6.08	0.01	6.08 $\pm$ 0.01
	7	6.06	6.05	6.04	6.05	0.01	6.05 $\pm$ 0.01
	14	6.05	6.09	6.08	6.07	0.02	6.07 $\pm$ 0.02
	21	6.03	6.04	6.05	6.04	0.01	6.04 $\pm$ 0.01
	28	6.01	6.04	6.04	6.03	0.02	6.03 $\pm$ 0.02

Lampiran 9. Hasil pengukuran Viskositas 28 Hari (*real time*) pada suhu ruang

Uji Viskositas							
Formula	Hari Ke-	Replikasi			Rata - Rata	SD	Rata - Rata $\pm$ SD
		1	2	3			
F0	0	6449.00	6448.00	6445.00	6447.33	2.08	6447 $\pm$ 2.08
	7	6440.00	6442.00	6440.00	6440.67	1.15	6440 $\pm$ 1.15
	14	6420.00	6421.00	6423.00	6421.33	1.53	6421 $\pm$ 1.53
	21	6420.00	6422.00	6422.00	6421.33	1.15	6421 $\pm$ 1.15
	28	6415.00	6413.00	6412.00	6413.33	1.53	6413 $\pm$ 1.153
F1	0	6410.00	6412.00	6413.00	6411.67	1.53	6411 $\pm$ 1.53
	7	6405.00	6402.00	6403.00	6403.33	1.53	6403 $\pm$ 1.53
	14	6380.00	6385.00	6382.00	6382.33	2.52	6382 $\pm$ 2.52
	21	6387.00	6385.00	6384.00	6385.33	1.53	6385 $\pm$ 1.53
	28	6384.00	6384.00	6382.00	6383.33	1.15	6383 $\pm$ 1.15
F2	0	6256.00	6255.00	6254.00	6255.00	1.00	6255 $\pm$ 1.00
	7	6253.00	6252.00	6251.00	6252.00	1.00	6252 $\pm$ 1.00
	14	6251.00	6250.00	6251.00	6250.67	0.58	6250 $\pm$ 0.58
	21	6187.00	6185.00	6183.00	6185.00	2.00	6185 $\pm$ 2.00
	28	6182.00	6185.00	6184.00	6183.67	1.53	6183 $\pm$ 1.53
F3	0	5982.00	5982.00	5984.00	5982.67	1.15	5982 $\pm$ 1.15
	7	5985.00	5983.00	5981.00	5983.00	2.00	5983 $\pm$ 2.00
	14	5981.00	5980.00	5980.00	5980.33	0.58	5980 $\pm$ 0.58
	21	5872.00	5871.00	5870.00	5871.00	1.00	5871 $\pm$ 1.00
	28	5863.00	5860.00	5861.00	5861.33	1.53	5861 $\pm$ 1.53
F4	0	5560.00	5561.00	5562.00	5561.00	1.00	5561 $\pm$ 1.00
	7	5563.00	5562.00	5561.00	5562.00	1.00	5562 $\pm$ 1.00
	14	5562.00	5560.00	5560.00	5560.67	1.15	5560 $\pm$ 1.15
	21	5550.00	5551.00	5550.00	5550.33	0.58	5550 $\pm$ 0.58
	28	5554.00	5555.00	5553.00	5554.00	1.00	5554 $\pm$ 1.00

Lampiran 10. Hasil pengukuran Daya sebar 28 Hari (*real time*) pada suhu ruang

Uji Daya Sebar							
Formula	Hari Ke-	Replikasi			Rata - Rata	SD	Rata - Rata + SD
		1	2	3			
F0	0	5.12	5.13	5.10	5.12	0.02	5.12 ± 0.02
	7	5.17	5.16	5.16	5.16	0.01	5.16 ± 0.01
	14	5.20	5.21	5.22	5.21	0.01	5.21 ± 0.01
	21	5.21	5.20	5.23	5.21	0.02	5.21 ± 0.02
	28	5.28	5.29	5.30	5.29	0.01	5.29 ± 0.01
F1	0	5.30	5.31	5.30	5.30	0.01	5.30 ± 0.01
	7	5.34	5.33	5.33	5.33	0.01	5.33 ± 0.01
	14	5.40	5.42	5.42	5.41	0.01	5.41 ± 0.01
	21	5.45	5.46	5.44	5.45	0.01	5.45 ± 0.01
	28	5.47	5.48	5.48	5.48	0.01	5.48 ± 0.01
F2	0	6.12	6.15	6.17	6.15	0.03	6.15 ± 0.03
	7	6.25	6.23	6.25	6.24	0.01	6.24 ± 0.01
	14	6.27	6.25	6.24	6.25	0.02	6.25 ± 0.02
	21	6.30	6.33	6.32	6.32	0.02	6.32 ± 0.02
	28	6.38	6.35	6.37	6.37	0.02	6.37 ± 0.02
F3	0	6.55	6.54	6.55	6.55	0.01	6.55 ± 0.01
	7	6.56	6.56	6.55	6.56	0.01	6.56 ± 0.01
	14	6.59	6.57	6.58	6.58	0.01	6.58 ± 0.01
	21	6.12	6.13	6.15	6.13	0.02	6.13 ± 0.02
	28	6.28	6.25	6.27	6.27	0.02	6.27 ± 0.02
F4	0	6.35	6.35	6.36	6.35	0.01	6.35 ± 0.01
	7	6.40	6.42	6.45	6.42	0.03	6.42 ± 0.03
	14	6.45	6.46	6.46	6.46	0.01	6.46 ± 0.01
	21	6.48	6.47	6.48	6.48	0.01	6.48 ± 0.01
	28	6.52	6.50	6.53	6.52	0.02	6.52 ± 0.02

Lampiran 11. Hasil pengukuran Organoleptik *cycling test*

Uji Organoleptis				
Formula	Parameter			
	Siklus	Bentuk	Warna	Aroma
F0	1	Kental	Putih	Bau Khas Aromatik
	2	Kental	Putih	Bau Khas Aromatik
	3	Kental	Putih	Bau Khas Aromatik
	4	Kental	Putih	Bau Khas Aromatik
	5	Kental	Putih	Bau Khas Aromatik
	6	Kental	Putih	Bau Khas Aromatik
F1	1	Kental	Hijau Muda	Bau Khas Aromatik
	2	Kental	Hijau Muda	Bau Khas Aromatik
	3	Kental	Hijau Muda	Bau Khas Aromatik
	4	Kental	Hijau Muda	Bau Khas Aromatik
	5	Kental	Hijau Muda	Bau Khas Aromatik
	6	Kental	Hijau Muda	Bau Khas Aromatik
F2	1	Kental	Hijau	Bau Khas Aromatik
	2	Kental	Hijau	Bau Khas Aromatik
	3	Kental	Hijau	Bau Khas Aromatik
	4	Kental	Hijau	Bau Khas Aromatik
	5	Kental	Hijau	Bau Khas Aromatik
	6	Kental	Hijau	Bau Khas Aromatik
F3	1	Kental	Hijau Tua	Bau Khas Aromatik
	2	Kental	Hijau Tua	Bau Khas Aromatik
	3	Kental	Hijau Tua	Bau Khas Aromatik
	4	Kental	Hijau Tua	Bau Khas Aromatik
	5	Kental	Hijau Tua	Bau Khas Aromatik
	6	Kental	Hijau Tua	Bau Khas Aromatik
F4	1	Kental	Hijau Pekat	Bau Khas Aromatik
	2	Kental	Hijau Pekat	Bau Khas Aromatik
	3	Kental	Hijau Pekat	Bau Khas Aromatik
	4	Kental	Hijau Pekat	Bau Khas Aromatik
	5	Kental	Hijau Pekat	Bau Khas Aromatik
	6	Kental	Hijau Pekat	Bau Khas Aromatik

Lampiran 12. Hasil Uji Homogenitas *cycling test*

Siklus ke -	Homogenitas				
	F0	F1	F2	F3	F4
1	Homogen	Homogen	Homogen	Homogen	Homogen
2	Homogen	Homogen	Homogen	Homogen	Homogen
3	Homogen	Homogen	Homogen	Homogen	Homogen
4	Homogen	Homogen	Homogen	Homogen	Homogen
5	Homogen	Homogen	Homogen	Homogen	Homogen
6	Homogen	Homogen	Homogen	Homogen	Homogen

Lampiran 13. Hasil Pengukuran pH *cycling test*

Uji pH

Formula	Siklus ke -	Replikasi			Rata - Rata	Sd	Rata - Rata $\pm$ SD
		1	2	3			
F0	1	6.48	6.48	6.47	6.48	0.01	6.48 $\pm$ 0.01
	2	6.47	6.46	6.47	6.47	0.01	6.47 $\pm$ 0.01
	3	6.45	6.43	6.42	6.43	0.02	6.43 $\pm$ 0.02
	4	6.43	6.42	6.41	6.42	0.01	6.42 $\pm$ 0.01
	5	6.42	6.41	6.43	6.42	0.01	6.42 $\pm$ 0.01
	6	6.40	6.40	6.41	6.40	0.01	6.40 $\pm$ 0.01
F1	1	6.25	6.24	6.22	6.24	0.02	6.24 $\pm$ 0.02
	2	6.25	6.23	6.24	6.24	0.01	6.24 $\pm$ 0.01
	3	6.24	6.25	6.26	6.25	0.01	6.25 $\pm$ 0.01
	4	6.23	6.20	6.22	6.22	0.02	6.22 $\pm$ 0.02
	5	6.20	6.20	6.21	6.20	0.01	6.20 $\pm$ 0.01
	6	6.12	6.13	6.15	6.13	0.02	6.13 $\pm$ 0.02
F2	1	6.22	6.21	6.23	6.22	0.01	6.22 $\pm$ 0.01
	2	6.23	6.23	6.22	6.23	0.01	6.23 $\pm$ 0.01
	3	6.18	6.17	6.15	6.17	0.02	6.17 $\pm$ 0.02
	4	6.17	6.15	6.18	6.17	0.02	6.17 $\pm$ 0.02
	5	6.10	6.13	6.15	6.13	0.03	6.13 $\pm$ 0.03
	6	6.09	6.08	6.07	6.08	0.01	6.08 $\pm$ 0.01
F3	1	6.35	6.35	6.34	6.35	0.01	6.35 $\pm$ 0.01
	2	6.34	6.34	6.35	6.34	0.01	6.34 $\pm$ 0.01
	3	6.33	6.35	6.35	6.34	0.01	6.34 $\pm$ 0.01
	4	6.31	6.32	6.35	6.33	0.02	6.33 $\pm$ 0.02
	5	6.10	6.10	6.15	6.12	0.03	6.12 $\pm$ 0.03
	6	6.05	6.04	6.00	6.03	0.03	6.03 $\pm$ 0.03
F4	1	6.22	6.23	6.24	6.23	0.01	6.23 $\pm$ 0.01
	2	6.21	6.25	6.25	6.24	0.02	6.24 $\pm$ 0.02
	3	6.18	6.12	6.12	6.14	0.03	6.14 $\pm$ 0.01
	4	6.15	6.17	6.15	6.16	0.01	6.16 $\pm$ 0.01
	5	6.06	6.06	6.05	6.06	0.01	6.06 $\pm$ 0.01
	6	6.04	6.06	6.09	6.06	0.03	6.06 $\pm$ 0.03

Lampiran 14. Hasil pengukuran Viskositas *cycling test*

Formula	Siklus ke -	Replikasi			Rata - Rata	SD	Rata - Rata $\pm$ SD
		1	2	3			
F0	1	6455.00	6451.00	6452.00	6452.667	2.08	6452 $\pm$ 2.08
	2	6452.00	6452.00	6451.00	6451.667	0.58	6451 $\pm$ 0.58
	3	6451.00	6450.00	6453.00	6451.333	1.53	6451 $\pm$ 1.53
	4	6450.00	6451.00	6450.00	6450.333	0.58	6450 $\pm$ 0.58
	5	6485.00	6482.00	6483.00	6483.333	1.53	6483 $\pm$ 1.53
	6	6482.00	6480.00	6480.00	6480.667	1.15	6480 $\pm$ 1.15
F1	1	6410.00	6412.00	6413.00	6411.667	1.53	6411 $\pm$ 1.53
	2	6386.00	6385.00	6386.00	6385.667	0.58	6383 $\pm$ 0.58
	3	6382.00	6382.00	6385.00	6383.000	1.73	6383 $\pm$ 1.73
	4	6381.00	6382.00	6381.00	6381.333	0.58	638 $\pm$ 0.58
	5	6384.00	6382.00	6381.00	6382.333	1.53	6382 $\pm$ 1.53
	6	6380.00	6382.00	6380.00	6380.667	1.15	6380 $\pm$ 1.15
F2	1	6256.00	6254.00	6253.00	6254.333	1.53	6254 $\pm$ 1.53
	2	6254.00	6253.00	6251.00	6252.667	1.53	6252 $\pm$ 1.53
	3	6253.00	6252.00	6252.00	6252.333	0.58	6252 $\pm$ 0.58
	4	6251.00	6252.00	6251.00	6251.333	0.58	6251 $\pm$ 0.58
	5	6252.00	6253.00	6256.00	6253.667	2.08	6253 $\pm$ 2.08
	6	6120.00	6122.00	6124+3	6121.000	1.41	6121 $\pm$ 1.14
F3	1	5982.00	5985.00	5984.00	5983.667	1.53	5983 $\pm$ 1.53
	2	5981.00	5982.00	5984.00	5982.333	1.53	5982 $\pm$ 1.53
	3	5980.00	5981.00	5984.00	5981.667	2.08	5981 $\pm$ 2.08
	4	5887.00	5886.00	5884.00	5885.667	1.53	5884 $\pm$ 1.53
	5	5862.00	5864.00	5862.00	5862.667	1.15	5862 $\pm$ 1.15
	6	5861.00	5862.00	5865.00	5862.667	2.08	5862 $\pm$ 2.08
F4	1	5560.00	5561.00	5563.00	5561.333	1.53	5561 $\pm$ 1.53
	2	5563.00	5563.00	5561.00	5562.333	1.15	5562 $\pm$ 1.15
	3	5561.00	5560.00	5561.00	5560.667	0.58	5560 $\pm$ 0.58
	4	5485.00	5485.00	5483.00	5484.333	1.15	5484 $\pm$ 1.15
	5	5481.00	5482.00	5485.00	5482.667	2.08	5482 $\pm$ 2.08
	6	5475.00	5472.00	5476.00	5474.333	2.08	5474 $\pm$ 2.08

Lampiran 15. Hasil pengukuran Daya sebar *cycling test*

Formula	Siklus ke -	Replikasi			Rata - Rata	Sd	Rata - rata $\pm$ SD
		1	2	3			
F0	1	5.12	5.13	5.14	5.130	0.01	5.130 ± 0.01
	2	5.15	5.16	5.16	5.157	0.01	5.157 ± 0.01
	3	5.20	5.24	5.26	5.233	0.03	5.233 ± 0.03
	4	5.26	5.25	5.24	5.250	0.01	5.250 ± 0.01
	5	5.35	5.35	5.36	5.353	0.01	5.353 ± 0.01
	6	5.40	5.42	5.41	5.410	0.01	5.410 ± 0.01
F1	1	5.40	5.43	5.43	5.420	0.02	5.420 ± 0.02
	2	5.45	5.46	5.45	5.453	0.01	5.453 ± 0.01
	3	5.49	5.50	5.53	5.507	0.02	5.507 ± 0.02
	4	5.50	5.50	5.52	5.507	0.01	5.507 ± 0.01
	5	5.65	5.66	5.67	5.660	0.01	5.660 ± 0.01
	6	5.70	6.84	6.85	6.463	0.66	6.463 ± 0.66
F2	1	6.12	6.52	6.52	6.385	0.23	6.385 ± 0.23
	2	6.19	6.20	6.18	6.190	0.01	6.190 ± 0.01
	3	6.23	6.20	6.22	6.217	0.02	6.217 ± 0.02
	4	6.28	6.67	6.66	6.536	0.22	6.536 ± 0.22
	5	6.34	6.35	6.33	6.340	0.01	6.340 ± 0.01
	6	6.40	6.42	6.43	6.417	0.02	6.417 ± 0.02
F3	1	6.55	6.52	6.54	6.536	0.02	6.536 ± 0.02
	2	6.58	6.57	6.56	6.570	0.01	6.570 ± 0.01
	3	6.60	6.64	6.63	6.623	0.02	6.623 ± 0.02
	4	6.64	6.62	6.63	6.630	0.01	6.630 ± 0.01
	5	6.68	6.93	6.93	6.844	0.14	6.844 ± 0.14
	6	6.71	6.75	6.72	6.727	0.02	6.727 ± 0.02
F4	1	6.75	6.75	6.77	6.757	0.01	6.757 ± 0.01
	2	6.80	6.85	6.85	6.833	0.03	6.833 ± 0.03
	3	6.80	6.83	6.84	6.823	0.02	6.823 ± 0.02
	4	6.93	6.90	6.92	6.916	0.01	6.916 ± 0.01
	5	6.94	6.92	6.93	6.930	0.01	6.930 ± 0.01
	6	6.95	6.94	6.93	6.940	0.01	6.940 ± 0.01

Lampiran 16. Tabel data serapan Uv dan perhitungan nilai SPF sediaan *Lotion*

Sampel	nm	Absorbansi			EE x 1	EE x 1 x Abs			CF	SPF ($\sum$ Eex 1 x Abs x CF)
		Replikasi				Replikasi				
		1	2	3		1	2	3		
Pembanding	290	4.828	4.826	4.827	0.015	0.072	0.072	0.072	10	33.7051
	295	4.632	4.631	4.632	0.0817	0.378	0.378	0.378		33.6986
	300	4.244	4.241	4.243	0.2874	1.220	1.219	1.219		33.6953
	305	3.217	3.218	3.217	0.3278	1.055	1.055	1.055		
	310	2.556	2.557	2.554	0.1864	0.476	0.477	0.476		
	315	1.678	1.676	1.674	0.0839	0.141	0.141	0.140		
	320	1.565	1.564	1.567	0.018	0.028	0.028	0.028		
$\sum$ (EE x 1 x Abs)						3.3705	3.3699	3.3695	Rata - Rata	33.6997
									SD	0.004958736

Sampel	nm	Absorbansi			EE x 1	EE x 1 x Abs			CF	SPF ($\sum E_{ex 1} \times Abs \times CF$)
		Replikasi				Replikasi				
		1	2	3		1	2	3		
F0	290	1.5100	1.5100	1.5120	0.015	0.0227	0.0227	0.02268	10	2.8356
	295	0.8940	0.8920	0.8940	0.0817	0.0730	0.0729	0.07304		2.8451
	300	0.3000	0.3020	0.3070	0.2874	0.0862	0.0868	0.088232		2.8708
	305	0.1900	0.1920	0.1930	0.3278	0.0623	0.0629	0.063265		
	310	0.1440	0.1450	0.1470	0.1864	0.0268	0.0270	0.027401		
	315	0.1270	0.1230	0.1260	0.0839	0.0107	0.0103	0.010571		
	320	0.1040	0.1060	0.1050	0.018	0.0019	0.0019	0.00189		
$\sum (EE \times 1 \times Abs)$						0.2836	0.2845	0.2871	Rata - Rata	2.8505
									SD	0.018196732

Sampel	nm	Absorbansi			EE x 1	EE x 1 x Abs			CF	SPF ($\sum E_{ex 1} \times Abs \times CF$)
		Replikasi				Replikasi				
		1	2	3		1	2	3		
F1	290	1.970	1.9720	1.9760	0.015	0.0296	0.0296	0.02964	10	8.8376
	295	1.443	1.4420	1.4450	0.0817	0.1179	0.1178	0.118057		8.8436
	300	0.930	0.9320	0.9350	0.2874	0.2673	0.2679	0.268719		8.859442
	305	0.804	0.8050	0.8040	0.3278	0.2636	0.2639	0.263551		
	310	0.733	0.7320	0.7350	0.1864	0.1366	0.1364	0.137004		
	315	0.684	0.6830	0.6850	0.0839	0.0574	0.0573	0.057472		
	320	0.637	0.6380	0.6390	0.018	0.0115	0.0115	0.011502		
$\sum (EE \times 1 \times Abs)$						0.8838	0.8844	0.8859	Rata - Rata	8.8469
									SD	0.011280431

Sampel	nm	Absorbansi			EE x 1	EE x 1 x Abs			CF	SPF ($\sum E_{ex 1} \times Abs \times CF$)
		Replikasi				Replikasi				
		1	2	3		1	2	3		
F2	290	3.366	3.3620	3.3670	0.015	0.0505	0.0504	0.050505	10	11.1688
	295	2.704	2.7050	2.7070	0.0817	0.2209	0.2210	0.221162		11.1947
	300	1.102	1.1060	1.1050	0.2874	0.3167	0.3179	0.317577		11.1928
	305	0.935	0.9370	0.9360	0.3278	0.3065	0.3071	0.306821		
	310	0.810	0.8120	0.8140	0.1864	0.1510	0.1514	0.15173		
	315	0.714	0.7180	0.7160	0.0839	0.0599	0.0602	0.060072		
	320	0.632	0.6350	0.6340	0.018	0.0114	0.0114	0.011412		
$\sum (EE \times 1 \times Abs)$						1.1169	1.1195	1.1193	Rata - Rata	11.1854
									SD	0.01443266

Sampel	nm	Absorbansi			EE x 1	EE x 1 x Abs			CF	SPF ($\sum$ Eex 1 x Abs x CF)
		Replikasi				Replikasi				
		1	2	3		1	2	3		
F3	290	2.2930	2.2950	2.2960	0.015	0.0344	0.0344	0.03444	10	15.8886
	295	2.1780	2.1760	2.1750	0.0817	0.1779	0.1778	0.177698		15.8838
	300	1.8430	1.8420	1.8450	0.2874	0.5297	0.5294	0.530253		15.8883
	305	1.5790	1.5780	1.5760	0.3278	0.5176	0.5173	0.516613		
	310	1.2600	1.2620	1.2630	0.1864	0.2349	0.2352	0.235423		
	315	0.9570	0.9560	0.9568	0.0839	0.0803	0.0802	0.080276		
	320	0.7830	0.7820	0.7850	0.018	0.0141	0.0141	0.01413		
$\sum$ (EE x 1 x Abs)						1.5889	1.5884	1.5888	Rata - Rata	15.8869
									SD	0.00267488

Sampel	nm	Absorbansi			EE x 1	EE x 1 x Abs			CF	SPF ($\sum$ Eex 1 x Abs x CF)
		Replikasi				Replikasi				
		1	2	3		1	2	3		
F4	290	4.451	4.452	4.456	0.015	0.067	0.067	0.067	10	26.2175
	295	4.244	4.243	4.245	0.0817	0.347	0.347	0.347		26.1961
	300	3.208	3.205	3.207	0.2874	0.922	0.921	0.922		26.1950
	305	2.559	2.556	2.552	0.3278	0.839	0.838	0.837		
	310	1.637	1.635	1.638	0.1864	0.305	0.305	0.305		
	315	1.436	1.437	1.435	0.0839	0.120	0.121	0.120		
	320	1.212	1.215	1.216	0.018	0.022	0.022	0.022		
$\sum$ (EE x 1 x Abs)						2.6218	2.6196	2.6195	Rata - Rata	26.2029
									SD	0.012706495

Lampiran 17. Contoh uraian perhitungan SPF

Contoh : Formula 1

Sampel	nm	Absorbansi			EE x 1
		Replikasi			
		1	2	3	
F1	290	1.970	1.9720	1.9760	0.015
	295	1.443	1.4420	1.4450	0.0817
	300	0.930	0.9320	0.9350	0.2874
	305	0.804	0.8050	0.8040	0.3278
	310	0.733	0.7320	0.7350	0.1864
	315	0.684	0.6830	0.6850	0.0839
	320	0.637	0.6380	0.6390	0.018

$$\text{Spektrofotometri SPF} = CF \times \sum_{290}^{320} EE \lambda \times I \times Abs$$

Replikasi 1

$$\begin{aligned}
 SPF &= 10 \times \{ (0.0150 \times 1.970) + (0.0817 \times 1.443) + (0.2874 \times 0.930) - \\
 &\quad + (0.3278 \times 0.804) + (0.1864 \times 0.733) + (0.839 \times 0.684) \\
 &\quad + (0.018 \times 0.637) \} \\
 &= 10 \times (0.02955 + 0.11789 + 0.2673 + 0.2635 + 0.1366 \\
 &\quad + 0.5739 + 0.01146) \\
 &= 10 \times 1.1329 \\
 &= 11.239
 \end{aligned}$$

Replikasi 2

$$\begin{aligned}
 SPF &= 10 \times \{ (0.0150 \times 1.970) + (0.0817 \times 1.420) + (0.2874 \times 0.932) - \\
 &\quad + (0.3278 \times 0.805) + (0.1864 \times 0.732) + (0.839 \times 0.683) \\
 &\quad + (0.018 \times 0.638) \} \\
 &= 10 \times (0.02955 + 1.1601 + + 0.2678 + 0.2638 + 0.1364 \\
 &\quad + 0.5730 + 0.0114) \\
 &= 10 \times 2.442 \\
 &= 24.420
 \end{aligned}$$

Replikasi 3

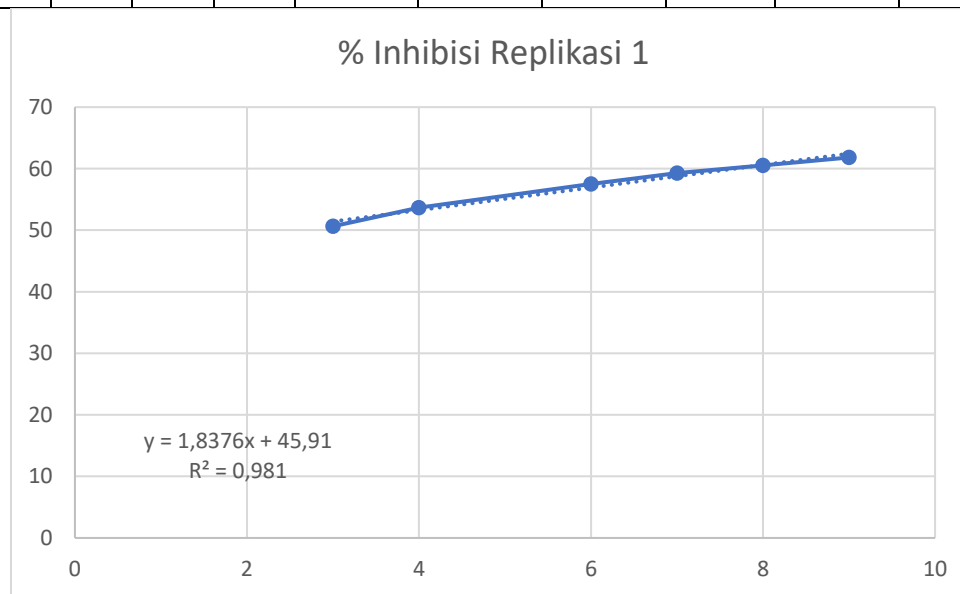
$$\begin{aligned}
 SPF &= 10 \times \{ (0.0150 \times 1.976) + (0.0817 \times 1.450) + (0.2874 \times 0.935) - \\
 &\quad + (0.3278 \times 0.804) + (0.1864 \times 0.735) + (0.839 \times 0.685) \\
 &\quad + (0.018 \times 0.639) \} \\
 &= 10 \times (0.02964 + 0.1184 + + 0.2687 + 0.2635 + 0.1370 + 0.532 \\
 &\quad + 0.0115) \\
 &= 10 \times 1.360 \\
 &= 13.607
 \end{aligned}$$

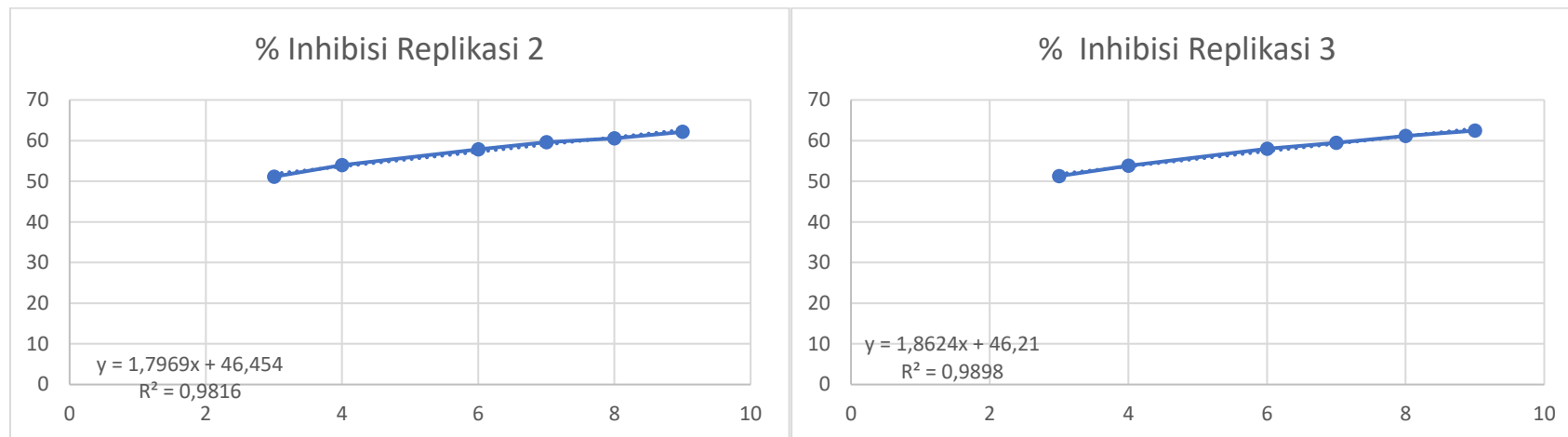
$$\begin{aligned}
 SPF \text{ F1} &= \frac{\text{Replikasi 1} + \text{replikasi 2} + \text{replikasi 3}}{3} \\
 &= \frac{11.239 + 24.420 + 13.607}{3} \\
 &= \frac{49.266}{3} \\
 &= 16.422
 \end{aligned}$$

Lampiran 18. Tabel Uji perhitungan Antioksidan

Vitamin C

Konsentrasi (µg/mL)	Abs Kontrol	Abs Sampel			% Inhibisi			IC ₅₀			Rata - Rata Ic 50	SD
		1	2	3	1	2	3	1	2	3		
3	0.626	0.309	0.306	0.305	50.63898	51.11821	51.27796	2.22682	1.973399	2.035009	2.078409	0.132168
4	0.626	0.290	0.288	0.289	53.67412	53.99361	53.83387					
6	0.626	0.266	0.264	0.263	57.50799	57.82748	57.98722					
7	0.626	0.255	0.253	0.254	59.26518	59.58466	59.42492					
8	0.626	0.247	0.247	0.243	60.54313	60.54313	61.18211					
9	0.626	0.239	0.237	0.235	61.82109	62.14058	62.46006					

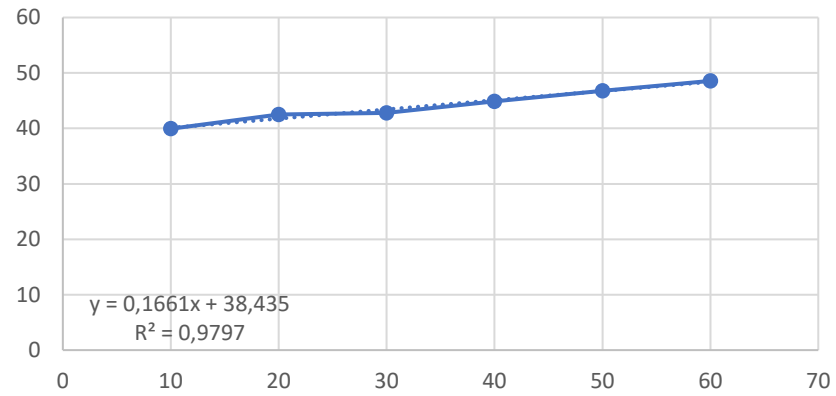




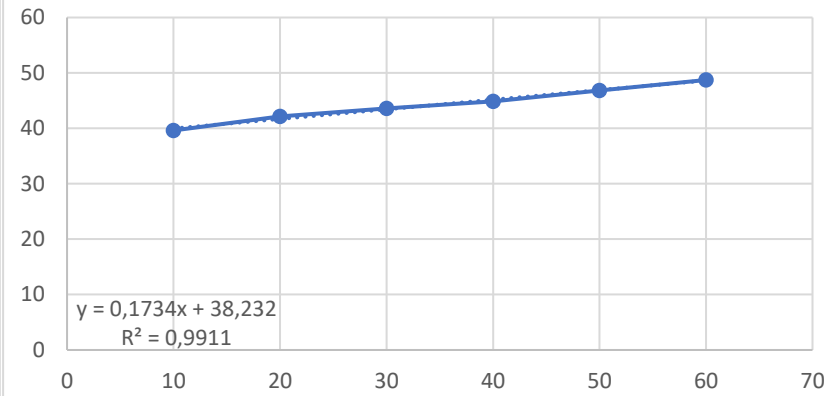
Formula Terbaik (Formula 4)

Konsentrasi (µg/mL)	Abs Kontrol	Abs Sampel			% Inhibisi			IC_{50}			Rata - Rata Ic 50	SD
		1	2	3	1	2	3	1	2	3		
10	0.626	0.376	0.378	0.374	39.9361	39.61661	40.25559	69.66867	67.86621	73.56291	70.3659313	2.911657
20	0.626	0.36	0.362	0.36	42.49201	42.17252	42.49201					
30	0.626	0.358	0.353	0.356	42.8115	43.61022	43.13099					
40	0.626	0.345	0.345	0.346	44.88818	44.88818	44.72843					
50	0.626	0.333	0.333	0.336	46.80511	46.80511	46.32588					
60	0.626	0.322	0.321	0.324	48.5623	48.72204	48.24281					

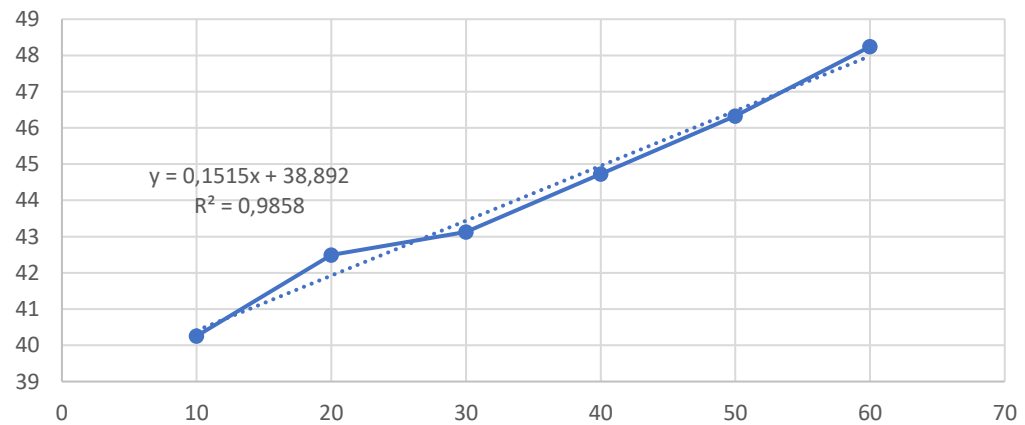
% Inhibisi replikasi 1



% Inhibisi replikasi 2



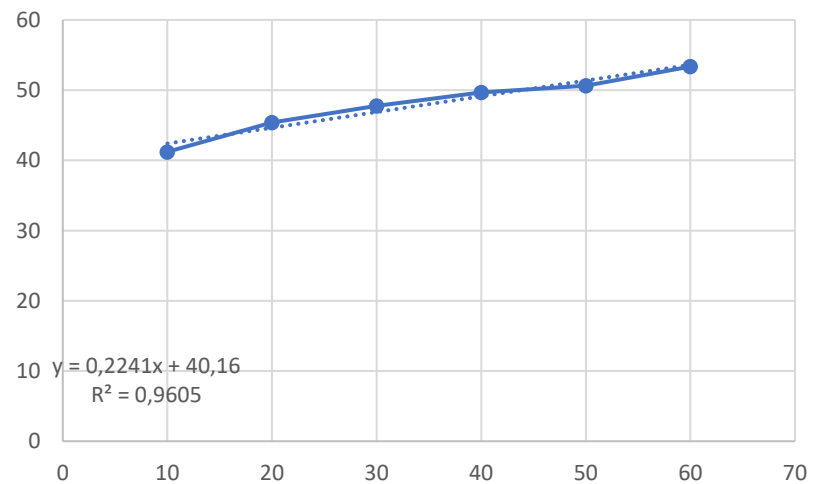
% Inhibisi replikasi 3



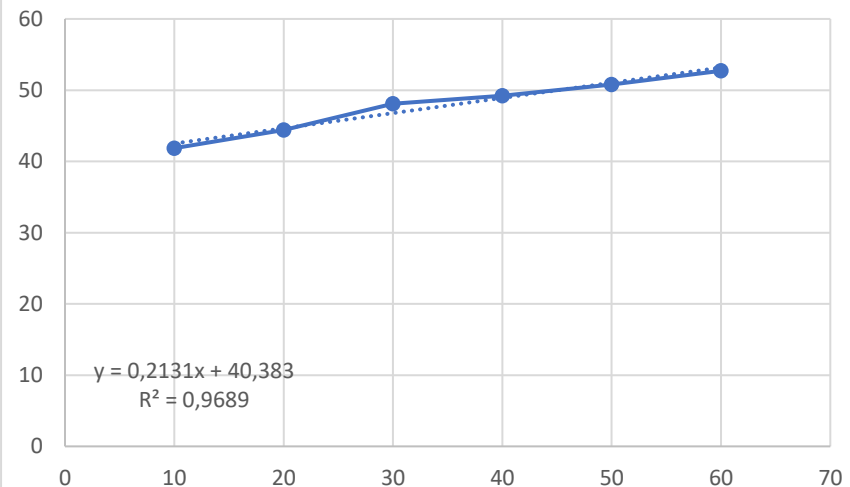
Ekstrak Etanol Daun kersen

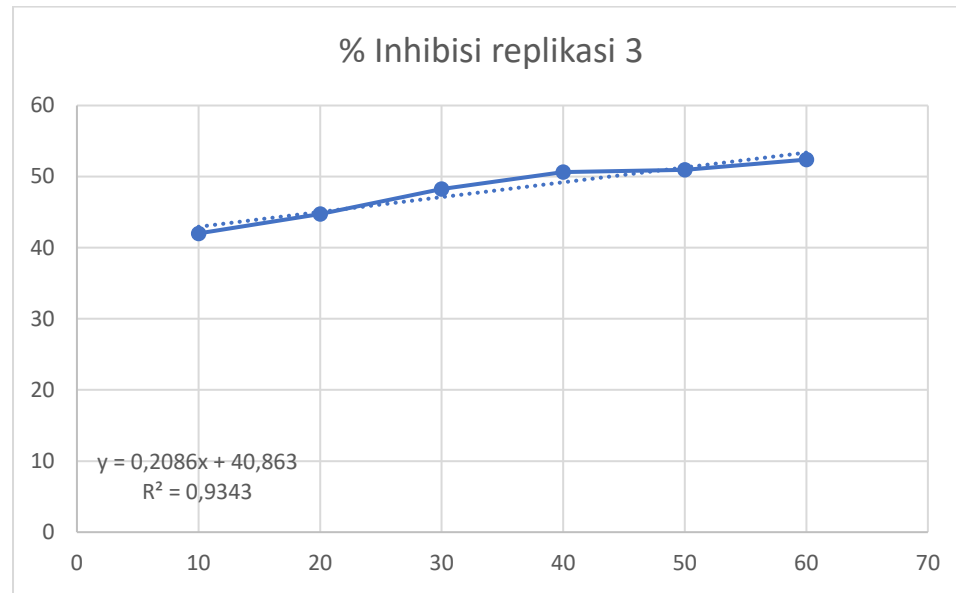
Konsentrasi ($\mu\text{g/mL}$)	Abs Kontrol	Abs Sampel			% Inhibisi			IC_{50}			Rata - Rata IC_{50}	SD
		1	2	3	1	2	3	1	2	3		
10	0.626	0.368	0.364	0.363	41.21406	41.85304	42.01278	43.90897	45.15023	43.80153	44.28691266	0.749586
20	0.626	0.342	0.348	0.346	45.36741	44.40895	44.72843					
30	0.626	0.327	0.325	0.324	47.76358	48.08307	48.24281					
40	0.626	0.315	0.318	0.309	49.68051	49.20128	50.63898					
50	0.626	0.309	0.308	0.307	50.63898	50.79872	50.95847					
60	0.626	0.292	0.296	0.298	53.35463	52.71565	52.39617					

% Inhibisi replikasi 1



% Inhibisi replikasi 2





Lampiran 19. Hasil uji Iritasi

Waktu	Efek Iritasi	Kelompok Uji	
		F0	F4
Jam ke-24	Eritema	1	1
	Udema	0	0
Jam ke-48	Eritema	0	0
	Udema	0	0
Jam ke - 72	Eritema	0	0
	Udema	0	0
Indeks Iritasi		1	1

Keterangan :

F0 : Formula tidak mengandung Zat Aktif

F4 : Formula Terbaik

Eritema : Kemerahan pada kulit kelinci

Udema : Bengkak pada kulit kelinci

Hasil Dokumentasi :



Jam ke- 24



Jam ke- 48



Jam ke -72

Lampiran 20. Hasil Analisis Statistik pH 28 Hari (*realtime*) pada suhu ruang

- Uji Normalitas

		Tests of Normality					
		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Hari_ke	Statistic	df	Sig.	Statistic	df	Sig.
pH_F0	Hari0	.253	3	.	.964	3	.637
	Hari7	.253	3	.	.964	3	.637
	Hari14	.175	3	.	1.000	3	1.000
	Hari21	.385	3	.	.750	3	.000
	Hari28	.385	3	.	.750	3	.000
pH_F1	Hari0	.253	3	.	.964	3	.637
	Hari7	.385	3	.	.750	3	.000
	Hari14	.253	3	.	.964	3	.637
	Hari21	.385	3	.	.750	3	.000
	Hari28	.175	3	.	1.000	3	1.000
pH_F2	Hari0	.292	3	.	.923	3	.463
	Hari7	.253	3	.	.964	3	.637
	Hari14	.385	3	.	.750	3	.000
	Hari21	.292	3	.	.923	3	.463
	Hari28	.253	3	.	.964	3	.637
pH_F3	Hari0	.385	3	.	.750	3	.000
	Hari7	.253	3	.	.964	3	.637
	Hari14	.385	3	.	.750	3	.000
	Hari21	.385	3	.	.750	3	.000
	Hari28	.253	3	.	.964	3	.637
pH_F4	Hari0	.385	3	.	.750	3	.000
	Hari7	.175	3	.	1.000	3	1.000
	Hari14	.292	3	.	.923	3	.463
	Hari21	.175	3	.	1.000	3	1.000
	Hari28	.385	3	.	.750	3	.000

- Uji Homogenitas

Test of Homogeneity of Variances				
	Levene Statistic	df1	df2	Sig.
pH_F0	.850	4	10	.525
pH_F1	1.200	4	10	.369
pH_F2	.274	4	10	.888
pH_F3	.857	4	10	.521
pH_F4	2.000	4	10	.171

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
pH_F0	Between Groups	.170	4	.043	290.568	.000
	Within Groups	.001	10	.000		
	Total	.172	14			
pH_F1	Between Groups	.064	4	.016	89.130	.000
	Within Groups	.002	10	.000		
	Total	.066	14			
pH_F2	Between Groups	.070	4	.017	53.398	.000
	Within Groups	.003	10	.000		
	Total	.073	14			
pH_F3	Between Groups	.022	4	.006	36.587	.000
	Within Groups	.002	10	.000		
	Total	.024	14			
pH_F4	Between Groups	.006	4	.002	7.810	.004
	Within Groups	.002	10	.000		
	Total	.008	14			

- Uji *Kruskal – Wallis test*

	Test Statistics ^{a,b}				
	pH F0	pH F1	pH F2	pH F3	pH F4
Chi-Square	13.548	11.234	12.414	12.464	10.506
df	4	4	4	4	4
Asymp. Sig.	.009	.024	.015	.014	.033

- Uji Lanjutan *Post - Hoc*

Multiple Comparisons

Dependent Variable		(I) Hari_ke	(J) Hari_ke	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
pH_F0	Tukey HSD	Hari0	Hari7	.08000*	.00989	.000	.0475	.1125
			Hari14	.16667*	.00989	.000	.1341	.1992
			Hari21	.21000*	.00989	.000	.1775	.2425
			Hari28	.31000*	.00989	.000	.2775	.3425
		Hari7	Hari0	-.08000*	.00989	.000	-.1125	-.0475
			Hari14	.08667*	.00989	.000	.0541	.1192
			Hari21	.13000*	.00989	.000	.0975	.1625
			Hari28	.23000*	.00989	.000	.1975	.2625
		Hari14	Hari0	-.16667*	.00989	.000	-.1992	-.1341
			Hari7	-.08667*	.00989	.000	-.1192	-.0541
			Hari21	.04333*	.00989	.009	.0108	.0759
			Hari28	.14333*	.00989	.000	.1108	.1759
		Hari21	Hari0	-.21000*	.00989	.000	-.2425	-.1775
			Hari7	-.13000*	.00989	.000	-.1625	-.0975
			Hari14	-.04333*	.00989	.009	-.0759	-.0108
			Hari28	.10000*	.00989	.000	.0675	.1325
		Hari28	Hari0	-.31000*	.00989	.000	-.3425	-.2775
			Hari7	-.23000*	.00989	.000	-.2625	-.1975
			Hari14	-.14333*	.00989	.000	-.1759	-.1108
			Hari21	-.10000*	.00989	.000	-.1325	-.0675
	Games-Howell	Hari0	Hari7	.08000*	.01247	.014	.0246	.1354
			Hari14	.16667*	.01054	.001	.1157	.2176
			Hari21	.21000*	.01106	.000	.1589	.2611
			Hari28	.31000*	.00943	.001	.2533	.3667

Multiple Comparisons

Multiple Comparisons						95% Confidence Interval	
Dependent Variable	(I) Hari_ke	(J) Hari_ke	Mean Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
	Hari7	Hari0	-.08000*	.01247	.014	-.1354	-.0246
		Hari14	.08667*	.01054	.009	.0357	.1376
		Hari21	.13000*	.01106	.002	.0789	.1811
		Hari28	.23000*	.00943	.002	.1733	.2867
	Hari14	Hari0	-.16667*	.01054	.001	-.2176	-.1157
		Hari7	-.08667*	.01054	.009	-.1376	-.0357
		Hari21	.04333*	.00882	.037	.0037	.0830
		Hari28	.14333*	.00667	.001	.1095	.1771
	Hari21	Hari0	-.21000*	.01106	.000	-.2611	-.1589
		Hari7	-.13000*	.01106	.002	-.1811	-.0789
		Hari14	-.04333*	.00882	.037	-.0830	-.0037
		Hari28	.10000*	.00745	.004	.0599	.1401
	Hari28	Hari0	-.31000*	.00943	.001	-.3667	-.2533
		Hari7	-.23000*	.00943	.002	-.2867	-.1733
		Hari14	-.14333*	.00667	.001	-.1771	-.1095
		Hari21	-.10000*	.00745	.004	-.1401	-.0599
pH_F1 Tukey HSD	Hari0	Hari7	.01000	.01095	.886	-.0261	.0461
		Hari14	.12667*	.01095	.000	.0906	.1627
		Hari21	.14333*	.01095	.000	.1073	.1794
		Hari28	.14333*	.01095	.000	.1073	.1794
	Hari7	Hari0	-.01000	.01095	.886	-.0461	.0261
		Hari14	.11667*	.01095	.000	.0806	.1527
		Hari21	.13333*	.01095	.000	.0973	.1694
		Hari28	.13333*	.01095	.000	.0973	.1694
	Hari14	Hari0	-.12667*	.01095	.000	-.1627	-.0906
		Hari7	-.11667*	.01095	.000	-.1527	-.0806
		Hari21	.01667	.01095	.573	-.0194	.0527
		Hari28	.01667	.01095	.573	-.0194	.0527
	Hari21	Hari0	-.14333*	.01095	.000	-.1794	-.1073
		Hari7	-.13333*	.01095	.000	-.1694	-.0973
		Hari14	-.01667	.01095	.573	-.0527	.0194
		Hari28	.00000	.01095	1.000	-.0361	.0361
	Hari28	Hari0	-.14333*	.01095	.000	-.1794	-.1073
		Hari7	-.13333*	.01095	.000	-.1694	-.0973
		Hari14	-.01667	.01095	.573	-.0527	.0194
		Hari21	.00000	.01095	1.000	-.0361	.0361
Games- Howell	Hari0	Hari7	.01000	.00943	.817	-.0467	.0667
		Hari14	.12667*	.01247	.003	.0712	.1821
		Hari21	.14333*	.01333	.002	.0836	.2031
		Hari28	.14333*	.01054	.002	.0924	.1943
	Hari7	Hari0	-.01000	.00943	.817	-.0667	.0467
		Hari14	.11667*	.00943	.008	.0600	.1733
		Hari21	.13333*	.01054	.010	.0672	.1995
		Hari28	.13333*	.00667	.001	.0995	.1671
	Hari14	Hari0	-.12667*	.01247	.003	-.1821	-.0712
		Hari7	-.11667*	.00943	.008	-.1733	-.0600
		Hari21	.01667	.01333	.731	-.0431	.0764
		Hari28	.01667	.01054	.580	-.0343	.0676
	Hari21	Hari0	-.14333*	.01333	.002	-.2031	-.0836
		Hari7	-.13333*	.01054	.010	-.1995	-.0672
		Hari14	-.01667	.01333	.731	-.0764	.0431
		Hari28	.00000	.01155	1.000	-.0586	.0586
	Hari28	Hari0	-.14333*	.01054	.002	-.1943	-.0924
		Hari7	-.13333*	.00667	.001	-.1671	-.0995
		Hari14	-.01667	.01054	.580	-.0676	.0343
		Hari21	.00000	.01155	1.000	-.0586	.0586
pH_F2 Tukey HSD	Hari0	Hari7	.12333*	.01476	.000	.0748	.1719
		Hari14	.12667*	.01476	.000	.0781	.1752

Multiple Comparisons

Dependent Variable	(I) Hari_ke	(J) Hari_ke	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		
						Lower Bound	Upper Bound	
		Hari21	.18333*	.01476	.000	.1348	.2319	
		Hari28	.19000*	.01476	.000	.1414	.2386	
		Hari7	-.12333*	.01476	.000	-.1719	-.0748	
		Hari14	.00333	.01476	.999	-.0452	.0519	
		Hari21	.06000*	.01476	.015	.0114	.1086	
		Hari28	.06667*	.01476	.008	.0181	.1152	
		Hari0	-.12667*	.01476	.000	-.1752	-.0781	
		Hari7	-.00333	.01476	.999	-.0519	.0452	
		Hari21	.05667*	.01476	.021	.0081	.1052	
		Hari28	.06333*	.01476	.011	.0148	.1119	
		Hari21	Hari0	-.18333*	.01476	.000	-.2319	-.1348
		Hari7	-.06000*	.01476	.015	-.1086	-.0114	
	Hari14	-.05667*	.01476	.021	-.1052	-.0081		
		Hari28	.00667	.01476	.990	-.0419	.0552	
		Hari0	-.19000*	.01476	.000	-.2386	-.1414	
		Hari7	-.06667*	.01476	.008	-.1152	-.0181	
		Hari14	-.06333*	.01476	.011	-.1119	-.0148	
		Hari21	-.00667	.01476	.990	-.0552	.0419	
		Hari0	Hari7	.12333*	.01491	.007	.0539	.1928
		Hari14	.12667*	.01563	.007	.0560	.1974	
		Hari21	.18333*	.01700	.002	.1078	.2589	
		Hari28	.19000*	.01491	.002	.1205	.2595	
		Hari7	Hari0	-.12333*	.01491	.007	-.1928	-.0539
		Hari14	Hari14	.00333	.01333	.999	-.0564	.0631
		Hari21	Hari21	.06000	.01491	.078	-.0095	.1295
		Hari28	Hari28	.06667*	.01247	.027	.0112	.1221
		Hari0	Hari0	-.12667*	.01563	.007	-.1974	-.0560
		Hari7	Hari7	-.00333	.01333	.999	-.0631	.0564
		Hari21	Hari21	.05667	.01563	.099	-.0140	.1274
		Hari28	Hari28	.06333*	.01333	.041	.0036	.1231
		Hari0	Hari0	-.18333*	.01700	.002	-.2589	-.1078
		Hari7	Hari7	-.06000	.01491	.078	-.1295	.0095
		Hari14	Hari14	-.05667	.01563	.099	-.1274	.0140
		Hari28	Hari28	.00667	.01491	.988	-.0628	.0761
		Hari0	Hari0	-.19000*	.01491	.002	-.2595	-.1205
		Hari7	Hari7	-.06667*	.01247	.027	-.1221	-.0112
		Hari14	Hari14	-.06333*	.01333	.041	-.1231	-.0036
		Hari21	Hari21	-.00667	.01491	.988	-.0761	.0628
		Hari0	Hari7	.05333*	.01011	.003	.0201	.0866
		Hari14	Hari14	.08000*	.01011	.000	.0467	.1133
Hari21		Hari21	.10333*	.01011	.000	.0701	.1366	
Hari28		Hari28	.10333*	.01011	.000	.0701	.1366	
Hari7		Hari0	-.05333*	.01011	.003	-.0866	-.0201	
Hari14		Hari14	.02667	.01011	.136	-.0066	.0599	
Hari21		Hari21	.05000*	.01011	.004	.0167	.0833	
Hari28		Hari28	.05000*	.01011	.004	.0167	.0833	
Hari0		Hari0	-.08000*	.01011	.000	-.1133	-.0467	
Hari7		Hari7	-.02667	.01011	.136	-.0599	.0066	
Hari21		Hari21	.02333	.01011	.219	-.0099	.0566	
	Hari28	Hari28	.02333	.01011	.219	-.0099	.0566	
	Hari0	Hari0	-.10333*	.01011	.000	-.1366	-.0701	
	Hari7	Hari7	-.05000*	.01011	.004	-.0833	-.0167	
	Hari14	Hari14	-.02333	.01011	.219	-.0566	.0099	
	Hari28	Hari28	.00000	.01011	1.000	-.0333	.0333	
	Hari0	Hari0	-.10333*	.01011	.000	-.1366	-.0701	
	Hari7	Hari7	-.05000*	.01011	.004	-.0833	-.0167	
	Hari14	Hari14	-.02333	.01011	.219	-.0566	.0099	
	Hari21	Hari21	.00000	.01011	1.000	-.0333	.0333	

Multiple Comparisons

Dependent Variable	(I) Hari_ke	(J) Hari_ke	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Games- Howell	Hari0	Hari7	.05333*	.01106	.044	.0022	.1044
		Hari14	.08000*	.00943	.005	.0381	.1219
		Hari21	.10333*	.00745	.004	.0632	.1434
		Hari28	.10333*	.01106	.005	.0522	.1544
	Hari7	Hari0	-.05333*	.01106	.044	-.1044	-.0022
		Hari14	.02667	.01106	.284	-.0244	.0778
		Hari21	.05000	.00943	.067	-.0067	.1067
		Hari28	.05000	.01247	.070	-.0054	.1054
	Hari14	Hari0	-.08000*	.00943	.005	-.1219	-.0381
		Hari7	-.02667	.01106	.284	-.0778	.0244
		Hari21	.02333	.00745	.187	-.0168	.0634
		Hari28	.02333	.01106	.370	-.0278	.0744
	Hari21	Hari0	-.10333*	.00745	.004	-.1434	-.0632
		Hari7	-.05000	.00943	.067	-.1067	.0067
		Hari14	-.02333	.00745	.187	-.0634	.0168
		Hari28	.00000	.00943	1.000	-.0567	.0567
	Hari28	Hari0	-.10333*	.01106	.005	-.1544	-.0522
		Hari7	-.05000	.01247	.070	-.1054	.0054
		Hari14	-.02333	.01106	.370	-.0744	.0278
		Hari21	.00000	.00943	1.000	-.0567	.0567
pH_F4 Tukey HSD	Hari0	Hari7	.03333	.01135	.087	-.0040	.0707
		Hari14	.01000	.01135	.898	-.0274	.0474
		Hari21	.04333*	.01135	.022	.0060	.0807
		Hari28	.05333*	.01135	.006	.0160	.0907
	Hari7	Hari0	-.03333	.01135	.087	-.0707	.0040
		Hari14	-.02333	.01135	.309	-.0607	.0140
		Hari21	.01000	.01135	.898	-.0274	.0474
		Hari28	.02000	.01135	.443	-.0174	.0574
	Hari14	Hari0	-.01000	.01135	.898	-.0474	.0274
		Hari7	.02333	.01135	.309	-.0140	.0607
		Hari21	.03333	.01135	.087	-.0040	.0707
		Hari28	.04333*	.01135	.022	.0060	.0807
	Hari21	Hari0	-.04333*	.01135	.022	-.0807	-.0060
		Hari7	-.01000	.01135	.898	-.0474	.0274
		Hari14	-.03333	.01135	.087	-.0707	.0040
		Hari28	.01000	.01135	.898	-.0274	.0474
	Hari28	Hari0	-.05333*	.01135	.006	-.0907	-.0160
		Hari7	-.02000	.01135	.443	-.0574	.0174
		Hari14	-.04333*	.01135	.022	-.0807	-.0060
		Hari21	-.01000	.01135	.898	-.0474	.0274
	Games- Howell	Hari0					
		Hari7	.03333	.00667	.052	-.0005	.0671
		Hari14	.01000	.01247	.912	-.0725	.0925
		Hari21	.04333*	.00667	.024	.0095	.0771
		Hari28	.05333	.01054	.081	-.0128	.1195
	Hari7	Hari0	-.03333	.00667	.052	-.0671	.0005
		Hari14	-.02333	.01333	.522	-.0963	.0496
		Hari21	.01000	.00816	.743	-.0263	.0463
		Hari28	.02000	.01155	.521	-.0386	.0786
	Hari14	Hari0	-.01000	.01247	.912	-.0925	.0725
		Hari7	.02333	.01333	.522	-.0496	.0963
		Hari21	.03333	.01333	.298	-.0396	.1063
		Hari28	.04333	.01563	.203	-.0274	.1140
	Hari21	Hari0	-.04333*	.00667	.024	-.0771	-.0095
		Hari7	-.01000	.00816	.743	-.0463	.0263
		Hari14	-.03333	.01333	.298	-.1063	.0396
		Hari28	.01000	.01155	.894	-.0486	.0686
	Hari28	Hari0	-.05333	.01054	.081	-.1195	.0128
		Hari7	-.02000	.01155	.521	-.0786	.0386

Multiple Comparisons

Dependent Variable	(I) Hari_ke	(J) Hari_ke	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound Upper Bound	
		Hari14	-.04333	.01563	.203	-.1140	.0274
		Hari21	-.01000	.01155	.894	-.0686	.0486

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

Lampiran 21. Hasil Analisis Statistik Viskositas 28 Hari (*realtime*) pada suhu ruang

- Uji Normalitas

		Tests of Normality					
		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Hari_ke	Statistic	df	Sig.	Statistic	df	Sig.
Viskositas_F0	Hari_ke0	.232	3	.	.980	3	.726
	Hari_ke7	.385	3	.	.750	3	.000
	Hari_ke14	.253	3	.	.964	3	.637
	Hari_ke21	.385	3	.	.750	3	.000
	Hari_ke28	.253	3	.	.964	3	.637
Viskositas_F1	Hari_ke0	.253	3	.	.964	3	.637
	Hari_ke7	.253	3	.	.964	3	.637
	Hari_ke14	.368	3	.	.790	3	.091
	Hari_ke21	.253	3	.	.964	3	.637
	Hari_ke28	.385	3	.	.750	3	.000
Viskositas_F2	Hari_ke0	.175	3	.	1.000	3	1.000
	Hari_ke7	.175	3	.	1.000	3	1.000
	Hari_ke14	.385	3	.	.750	3	.000
	Hari_ke21	.175	3	.	1.000	3	1.000
	Hari_ke28	.253	3	.	.964	3	.637
Viskositas_F3	Hari_ke0	.385	3	.	.750	3	.000
	Hari_ke7	.175	3	.	1.000	3	1.000
	Hari_ke14	.385	3	.	.750	3	.000
	Hari_ke21	.385	3	.	.750	3	.000
	Hari_ke28	.253	3	.	.964	3	.637
Viskositas_F4	Hari_ke0	.175	3	.	1.000	3	1.000
	Hari_ke7	.175	3	.	1.000	3	1.000
	Hari_ke14	.385	3	.	.750	3	.000
	Hari_ke21	.385	3	.	.750	3	.000
	Hari_ke28	.175	3	.	1.000	3	1.000

- Uji Homogenitas

Test of Homogeneity of Variances				
	Levene Statistic	df1	df2	Sig.
Viskositas_F0	2.146	4	10	.149
Viskositas_F1	14.143	4	10	.000
Viskositas_F2	.794	4	10	.555
Viskositas_F3	1.164	4	10	.383
Viskositas_F4	.313	4	10	.863

ANOVA						
		Sum of Squares	df	Mean Square	F	Sig.
Viskositas_F0	Between Groups	2193.067	4	548.267	115.831	.000
	Within Groups	47.333	10	4.733		
	Total	2240.400	14			
Viskositas_F1	Between Groups	1799.600	4	449.900	2.248	.136
	Within Groups	2001.333	10	200.133		
	Total	3800.933	14			
Viskositas_F2	Between Groups	16787.600	4	4196.900	2421.288	.000
	Within Groups	17.333	10	1.733		
	Total	16804.933	14			
Viskositas_F3	Between Groups	48715.067	4	12178.767	7307.260	.000
	Within Groups	16.667	10	1.667		
	Total	48731.733	14			
Viskositas_F4	Between Groups	318.267	4	79.567	85.250	.000
	Within Groups	9.333	10	.933		
	Total	327.600	14			

- Uji *Kruskal – Wallis test*

Test Statistics ^{a,b}					
	Viskositas_F0	Viskositas_F1	Viskositas_F2	Viskositas_F3	Viskositas_F4
Chi-Square	12.492	8.466	12.806	12.699	11.819
df	4	4	4	4	4
Asymp. Sig.	.014	.076	.012	.013	.019

- Uji Lanjutan *Post - Hoc*

Multiple Comparisons

Dependent Variable		(I) Hari_ke	(J) Hari_ke	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Viskositas_F0	Tukey HSD	Hari_ke0	Hari_ke7	3.66667	1.77639	.305	-2.1796	9.5129
			Hari_ke14	23.00000*	1.77639	.000	17.1538	28.8462
			Hari_ke21	23.00000*	1.77639	.000	17.1538	28.8462
			Hari_ke28	31.00000*	1.77639	.000	25.1538	36.8462
		Hari_ke7	Hari_ke0	-3.66667	1.77639	.305	-9.5129	2.1796
			Hari_ke14	19.33333*	1.77639	.000	13.4871	25.1796
			Hari_ke21	19.33333*	1.77639	.000	13.4871	25.1796
			Hari_ke28	27.33333*	1.77639	.000	21.4871	33.1796
		Hari_ke14	Hari_ke0	-23.00000*	1.77639	.000	-28.8462	-17.1538
			Hari_ke7	-19.33333*	1.77639	.000	-25.1796	-13.4871
			Hari_ke21	.00000	1.77639	1.000	-5.8462	5.8462
			Hari_ke28	8.00000*	1.77639	.008	2.1538	13.8462
		Hari_ke21	Hari_ke0	-23.00000*	1.77639	.000	-28.8462	-17.1538
			Hari_ke7	-19.33333*	1.77639	.000	-25.1796	-13.4871
			Hari_ke14	.00000	1.77639	1.000	-5.8462	5.8462
			Hari_ke28	8.00000*	1.77639	.008	2.1538	13.8462
		Hari_ke28	Hari_ke0	-31.00000*	1.77639	.000	-36.8462	-25.1538
			Hari_ke7	-27.33333*	1.77639	.000	-33.1796	-21.4871
			Hari_ke14	-8.00000*	1.77639	.008	-13.8462	-2.1538
			Hari_ke21	-8.00000*	1.77639	.008	-13.8462	-2.1538

Multiple Comparisons

Dependent Variable		(I) Hari_ke	(J) Hari_ke	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
							Lower Bound	Upper Bound
Games-Howell		Hari_ke0	Hari_ke7	3.66667	2.42670	.631	-12.2672	19.6005
			Hari_ke14	23.00000*	2.49444	.018	8.0040	37.9960
			Hari_ke21	23.00000*	2.42670	.022	7.0661	38.9339
			Hari_ke28	31.00000*	2.49444	.008	16.0040	45.9960
		Hari_ke7	Hari_ke0	-3.66667	2.42670	.631	-19.6005	12.2672
			Hari_ke14	19.33333*	1.10554	.000	14.2239	24.4428
			Hari_ke21	19.33333*	.94281	.000	15.1420	23.5247
			Hari_ke28	27.33333*	1.10554	.000	22.2239	32.4428
		Hari_ke14	Hari_ke0	-23.00000*	2.49444	.018	-37.9960	-8.0040
			Hari_ke7	-19.33333*	1.10554	.000	-24.4428	-14.2239
			Hari_ke21	.00000	1.10554	1.000	-5.1094	5.1094
			Hari_ke28	8.00000*	1.24722	.014	2.4554	13.5446
		Hari_ke21	Hari_ke0	-23.00000*	2.42670	.022	-38.9339	-7.0661
			Hari_ke7	-19.33333*	.94281	.000	-23.5247	-15.1420
			Hari_ke14	.00000	1.10554	1.000	-5.1094	5.1094
			Hari_ke28	8.00000*	1.10554	.011	2.8906	13.1094
		Hari_ke28	Hari_ke0	-31.00000*	2.49444	.008	-45.9960	-16.0040
			Hari_ke7	-27.33333*	1.10554	.000	-32.4428	-22.2239
			Hari_ke14	-8.00000*	1.24722	.014	-13.5446	-2.4554
			Hari_ke21	-8.00000*	1.10554	.011	-13.1094	-2.8906
Viskositas_F1	Tukey HSD	Hari_ke0	Hari_ke7	8.33333	11.55085	.947	-29.6815	46.3481
			Hari_ke14	10.00000	11.55085	.903	-28.0148	48.0148
			Hari_ke21	26.33333	11.55085	.228	-11.6815	64.3481
			Hari_ke28	28.33333	11.55085	.178	-9.6815	66.3481
		Hari_ke7	Hari_ke0	-8.33333	11.55085	.947	-46.3481	29.6815
			Hari_ke14	1.66667	11.55085	1.000	-36.3481	39.6815
			Hari_ke21	18.00000	11.55085	.552	-20.0148	56.0148
			Hari_ke28	20.00000	11.55085	.459	-18.0148	58.0148
		Hari_ke14	Hari_ke0	-10.00000	11.55085	.903	-48.0148	28.0148
			Hari_ke7	-1.66667	11.55085	1.000	-39.6815	36.3481
			Hari_ke21	16.33333	11.55085	.633	-21.6815	54.3481
			Hari_ke28	18.33333	11.55085	.536	-19.6815	56.3481
		Hari_ke21	Hari_ke0	-26.33333	11.55085	.228	-64.3481	11.6815
			Hari_ke7	-18.00000	11.55085	.552	-56.0148	20.0148
			Hari_ke14	-16.33333	11.55085	.633	-54.3481	21.6815
			Hari_ke28	2.00000	11.55085	1.000	-36.0148	40.0148
		Hari_ke28	Hari_ke0	-28.33333	11.55085	.178	-66.3481	9.6815
			Hari_ke7	-20.00000	11.55085	.459	-58.0148	18.0148
			Hari_ke14	-18.33333	11.55085	.536	-56.3481	19.6815
			Hari_ke21	-2.00000	11.55085	1.000	-40.0148	36.0148
	Games-Howell	Hari_ke0	Hari_ke7	8.33333*	1.24722	.012	2.7887	13.8780
			Hari_ke14	10.00000	18.20867	.972	-129.3478	149.3478
			Hari_ke21	26.33333*	1.24722	.000	20.7887	31.8780
			Hari_ke28	28.33333*	1.10554	.000	23.2239	33.4428
		Hari_ke7	Hari_ke0	-8.33333*	1.24722	.012	-13.8780	-2.7887
			Hari_ke14	1.66667	18.20867	1.000	-137.6811	141.0144
			Hari_ke21	18.00000*	1.24722	.001	12.4554	23.5446
			Hari_ke28	20.00000*	1.10554	.000	14.8906	25.1094
		Hari_ke14	Hari_ke0	-10.00000	18.20867	.972	-149.3478	129.3478
			Hari_ke7	-1.66667	18.20867	1.000	-141.0144	137.6811
			Hari_ke21	16.33333	18.20867	.879	-123.0144	155.6811
			Hari_ke28	18.33333	18.19951	.838	-121.2649	157.9316
		Hari_ke21	Hari_ke0	-26.33333*	1.24722	.000	-31.8780	-20.7887
			Hari_ke7	-18.00000*	1.24722	.001	-23.5446	-12.4554
			Hari_ke14	-16.33333	18.20867	.879	-155.6811	123.0144
			Hari_ke28	2.00000	1.10554	.479	-3.1094	7.1094
		Hari_ke28	Hari_ke0	-28.33333*	1.10554	.000	-33.4428	-23.2239
			Hari_ke7	-20.00000*	1.10554	.000	-25.1094	-14.8906

Multiple Comparisons

Dependent Variable			(I) Hari_ke	(J) Hari_ke	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
								Lower Bound	Upper Bound
Viskositas_F2	Tukey HSD		Hari_ke0	Hari_ke14	-18.33333	18.19951	.838	-157.9316	121.2649
				Hari_ke21	-2.00000	1.10554	.479	-7.1094	3.1094
				Hari_ke7	3.00000	1.07497	.108	-.5378	6.5378
				Hari_ke14	4.33333*	1.07497	.016	.7955	7.8711
			Hari_ke21	Hari_ke0	70.00000*	1.07497	.000	66.4622	73.5378
				Hari_ke7	71.33333*	1.07497	.000	67.7955	74.8711
				Hari_ke14	1.33333	1.07497	.730	-2.2045	4.8711
				Hari_ke28	67.00000*	1.07497	.000	63.4622	70.5378
			Hari_ke28	Hari_ke0	68.33333*	1.07497	.000	64.7955	71.8711
				Hari_ke7	-3.00000	1.07497	.108	-6.5378	.5378
				Hari_ke14	-1.33333	1.07497	.730	-4.8711	2.2045
				Hari_ke21	65.66667*	1.07497	.000	62.1289	69.2045
	Games-Howell		Hari_ke0	Hari_ke14	67.00000*	1.07497	.000	63.4622	70.5378
				Hari_ke7	-70.00000*	1.07497	.000	-73.5378	-66.4622
				Hari_ke21	-67.00000*	1.07497	.000	-70.5378	-63.4622
				Hari_ke28	-65.66667*	1.07497	.000	-69.2045	-62.1289
			Hari_ke7	Hari_ke0	1.33333	1.07497	.730	-2.2045	4.8711
				Hari_ke14	-71.33333*	1.07497	.000	-74.8711	-67.7955
				Hari_ke21	-68.33333*	1.07497	.000	-71.8711	-64.7955
				Hari_ke28	-67.00000*	1.07497	.000	-70.5378	-63.4622
			Hari_ke14	Hari_ke0	-1.33333	1.07497	.730	-4.8711	2.2045
				Hari_ke7	3.00000	.81650	.091	-.6298	6.6298
				Hari_ke21	4.33333*	.66667	.024	.9519	7.7148
				Hari_ke28	70.00000*	1.29099	.000	63.0525	76.9475
			Hari_ke21	Hari_ke0	71.33333*	1.05409	.000	66.2368	76.4298
				Hari_ke7	-3.00000	.81650	.091	-6.6298	.6298
				Hari_ke14	1.33333	.66667	.422	-2.0481	4.7148
				Hari_ke28	67.00000*	1.29099	.000	60.0525	73.9475
			Hari_ke28	Hari_ke0	68.33333*	1.05409	.000	63.2368	73.4298
				Hari_ke7	-4.33333*	.66667	.024	-7.7148	-.9519
				Hari_ke14	-1.33333	.66667	.422	-4.7148	2.0481
				Hari_ke21	65.66667*	1.20185	.000	57.7970	73.5363
Viskositas_F3	Tukey HSD		Hari_ke0	Hari_ke28	67.00000*	.94281	.000	61.3320	72.6680
				Hari_ke7	-70.00000*	1.29099	.000	-76.9475	-63.0525
				Hari_ke14	-67.00000*	1.29099	.000	-73.9475	-60.0525
				Hari_ke21	-65.66667*	1.20185	.000	-73.5363	-57.7970
			Hari_ke7	Hari_ke0	1.33333	1.45297	.877	-5.3638	8.0304
				Hari_ke14	-71.33333*	1.05409	.000	-76.4298	-66.2368
				Hari_ke21	-68.33333*	1.05409	.000	-73.4298	-63.2368
				Hari_ke28	-67.00000*	.94281	.000	-72.6680	-61.3320
			Hari_ke14	Hari_ke0	-1.33333	1.45297	.877	-8.0304	5.3638
				Hari_ke7	3.00000	1.05409	.997	-3.8024	3.1358
				Hari_ke21	2.33333	1.05409	.250	-1.1358	5.8024
				Hari_ke28	112.33333*	1.05409	.000	108.8642	115.8024
			Hari_ke21	Hari_ke0	121.33333*	1.05409	.000	117.8642	124.8024
				Hari_ke7	.33333	1.05409	.997	-3.1358	3.8024
				Hari_ke14	2.66667	1.05409	.159	-.8024	6.1358
				Hari_ke28	112.66667*	1.05409	.000	109.1976	116.1358
			Hari_ke28	Hari_ke0	121.66667*	1.05409	.000	118.1976	125.1358
				Hari_ke7	-2.33333	1.05409	.250	-5.8024	1.1358
				Hari_ke14	-2.66667	1.05409	.159	-6.1358	.8024
				Hari_ke21	110.00000*	1.05409	.000	106.5309	113.4691
			Hari_ke28	Hari_ke0	119.00000*	1.05409	.000	115.5309	122.4691
				Hari_ke7	-112.33333*	1.05409	.000	-115.8024	-108.8642
				Hari_ke14	-112.66667*	1.05409	.000	-116.1358	-109.1976
				Hari_ke21	-110.00000*	1.05409	.000	-113.4691	-106.5309
			Hari_ke28	Hari_ke0	9.00000*	1.05409	.000	5.5309	12.4691

Multiple Comparisons

Dependent Variable	(I) Hari_ke	(J) Hari_ke	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		
						Lower Bound	Upper Bound	
Games-Howell	Hari_ke28	Hari_ke0	-121.33333*	1.05409	.000	-124.8024	-117.8642	
		Hari_ke7	-121.66667*	1.05409	.000	-125.1358	-118.1976	
		Hari_ke14	-119.00000*	1.05409	.000	-122.4691	-115.5309	
		Hari_ke21	-9.00000*	1.05409	.000	-12.4691	-5.5309	
	Hari_ke0	Hari_ke7	-.33333	1.33333	.999	-7.0963	6.4296	
		Hari_ke14	2.33333	.74536	.187	-1.6778	6.3445	
		Hari_ke21	112.33333*	.74536	.000	108.3222	116.3445	
		Hari_ke28	121.33333*	1.10554	.000	116.2239	126.4428	
	Hari_ke7	Hari_ke0	.33333	1.33333	.999	-6.4296	7.0963	
		Hari_ke14	2.66667	1.20185	.396	-5.2030	10.5363	
		Hari_ke21	112.66667*	1.20185	.000	104.7970	120.5363	
		Hari_ke28	121.66667*	1.45297	.000	114.9696	128.3638	
	Hari_ke14	Hari_ke0	-2.33333	.74536	.187	-6.3445	1.6778	
		Hari_ke7	-2.66667	1.20185	.396	-10.5363	5.2030	
		Hari_ke21	110.00000*	.47140	.000	107.9043	112.0957	
		Hari_ke28	119.00000*	.94281	.000	113.3320	124.6680	
	Hari_ke21	Hari_ke0	-112.33333*	.74536	.000	-116.3445	-108.3222	
		Hari_ke7	-112.66667*	1.20185	.000	-120.5363	-104.7970	
		Hari_ke14	-110.00000*	.47140	.000	-112.0957	-107.9043	
		Hari_ke28	9.00000*	.94281	.016	3.3320	14.6680	
	Hari_ke28	Hari_ke0	-121.33333*	1.10554	.000	-126.4428	-116.2239	
		Hari_ke7	-121.66667*	1.45297	.000	-128.3638	-114.9696	
		Hari_ke14	-119.00000*	.94281	.000	-124.6680	-113.3320	
		Hari_ke21	-9.00000*	.94281	.016	-14.6680	-3.3320	
Viskositas_F4	Tukey HSD	Hari_ke0	Hari_ke7	-1.00000	.78881	.715	-3.5960	1.5960
			Hari_ke14	.33333	.78881	.992	-2.2627	2.9294
			Hari_ke21	10.66667*	.78881	.000	8.0706	13.2627
			Hari_ke28	7.00000*	.78881	.000	4.4040	9.5960
		Hari_ke7	Hari_ke0	1.00000	.78881	.715	-1.5960	3.5960
			Hari_ke14	1.33333	.78881	.480	-1.2627	3.9294
			Hari_ke21	11.66667*	.78881	.000	9.0706	14.2627
			Hari_ke28	8.00000*	.78881	.000	5.4040	10.5960
		Hari_ke14	Hari_ke0	-.33333	.78881	.992	-2.9294	2.2627
			Hari_ke7	-1.33333	.78881	.480	-3.9294	1.2627
			Hari_ke21	10.33333*	.78881	.000	7.7373	12.9294
			Hari_ke28	6.66667*	.78881	.000	4.0706	9.2627
		Hari_ke21	Hari_ke0	-10.66667*	.78881	.000	-13.2627	-8.0706
			Hari_ke7	-11.66667*	.78881	.000	-14.2627	-9.0706
			Hari_ke14	-10.33333*	.78881	.000	-12.9294	-7.7373
			Hari_ke28	-3.66667*	.78881	.006	-6.2627	-1.0706
		Hari_ke28	Hari_ke0	-7.00000*	.78881	.000	-9.5960	-4.4040
			Hari_ke7	-8.00000*	.78881	.000	-10.5960	-5.4040
			Hari_ke14	-6.66667*	.78881	.000	-9.2627	-4.0706
			Hari_ke21	3.66667*	.78881	.006	1.0706	6.2627
	Games-Howell	Hari_ke0	Hari_ke7	-1.00000	.81650	.743	-4.6298	2.6298
			Hari_ke14	.33333	.88192	.994	-3.6292	4.2959
			Hari_ke21	10.66667*	.66667	.002	7.2852	14.0481
			Hari_ke28	7.00000*	.81650	.005	3.3702	10.6298
		Hari_ke7	Hari_ke0	1.00000	.81650	.743	-2.6298	4.6298
			Hari_ke14	1.33333	.88192	.606	-2.6292	5.2959
			Hari_ke21	11.66667*	.66667	.001	8.2852	15.0481
			Hari_ke28	8.00000*	.81650	.003	4.3702	11.6298
		Hari_ke14	Hari_ke0	-.33333	.88192	.994	-4.2959	3.6292
			Hari_ke7	-1.33333	.88192	.606	-5.2959	2.6292
			Hari_ke21	10.33333*	.74536	.004	6.3222	14.3445
			Hari_ke28	6.66667*	.88192	.008	2.7041	10.6292
		Hari_ke21	Hari_ke0	-10.66667*	.66667	.002	-14.0481	-7.2852
			Hari_ke7	-11.66667*	.66667	.001	-15.0481	-8.2852

Multiple Comparisons

Dependent Variable	(I) Hari_ke	(J) Hari_ke	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
	Hari_ke28	Hari_ke14	-10.33333*	.74536	.004	-14.3445	-6.3222
		Hari_ke28	-3.66667*	.66667	.040	-7.0481	-.2852
		Hari_ke0	-7.00000*	.81650	.005	-10.6298	-3.3702
		Hari_ke7	-8.00000*	.81650	.003	-11.6298	-4.3702
		Hari_ke14	-6.66667*	.88192	.008	-10.6292	-2.7041
		Hari_ke21	3.66667*	.66667	.040	.2852	7.0481

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

Lampiran 22. Hasil Analis Statistik Daya sebar 28 Hari (*realtime*) pada suhu ruang

- Uji Homogenitas

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Dayasebar_F0	.417	4	10	.793
Dayasebar_F1	1.000	4	10	.452
Dayasebar_F2	.535	4	10	.714
Dayasebar_F3	15.365	4	10	.000
Dayasebar_F4	2.441	4	10	.115

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Dayasebar_F0	Between Groups	.052	4	.013	81.771	.000
	Within Groups	.002	10	.000		
	Total	.054	14			
Dayasebar_F1	Between Groups	.067	4	.017	250.150	.000
	Within Groups	.001	10	.000		
	Total	.067	14			
Dayasebar_F2	Between Groups	.083	4	.021	70.602	.000
	Within Groups	.003	10	.000		
	Total	.086	14			
Dayasebar_F3	Between Groups	.438	4	.109	1.639	.240
	Within Groups	.668	10	.067		
	Total	1.106	14			
Dayasebar_F4	Between Groups	.045	4	.011	58.759	.000
	Within Groups	.002	10	.000		
	Total	.047	14			

- Uji *Kruskal – Wallis test*

Test Statistics^{a,b}

	Dayasebar_F0	Dayasebar_F1	Dayasebar_F2	Dayasebar_F3	Dayasebar_F4
Chi-Square	12.902	13.597	12.993	7.298	13.454
df	4	4	4	4	4
Asymp. Sig.	.012	.009	.011	.121	.009

- Uji Lanjutan *Post - hoc*

Multiple Comparisons

		(I)	(J)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
Dependent Variable		Harike_0	Harike_0				Lower Bound	Upper Bound
Dayasebar_F0	Tukey HSD	Harike_0	Harike7	-.03667*	.01033	.033	-.0707	-.0027
			Harike14	-.09333*	.01033	.000	-.1273	-.0593
			Harike21	-.09667*	.01033	.000	-.1307	-.0627
			Harike28	-.17333*	.01033	.000	-.2073	-.1393
		Harike7	Harike_0	.03667*	.01033	.033	.0027	.0707

Multiple Comparisons

Dependent Variable	(I) Harike_0	(J) Harike_0	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval		
						Lower Bound	Upper Bound	
Games- Howell	Harike14	Harike14	-.05667*	.01033	.002	-.0907	-.0227	
		Harike21	-.06000*	.01033	.001	-.0940	-.0260	
		Harike28	-.13667*	.01033	.000	-.1707	-.1027	
		Harike 0	.09333*	.01033	.000	.0593	.1273	
		Harike7	.05667*	.01033	.002	.0227	.0907	
		Harike21	-.00333	.01033	.997	-.0373	.0307	
		Harike28	-.08000*	.01033	.000	-.1140	-.0460	
		Harike21	Harike 0	.09667*	.01033	.000	.0627	.1307
			Harike7	.06000*	.01033	.001	.0260	.0940
			Harike14	.00333	.01033	.997	-.0307	.0373
			Harike28	-.07667*	.01033	.000	-.1107	-.0427
		Harike28	Harike 0	.17333*	.01033	.000	.1393	.2073
	Harike7		.13667*	.01033	.000	.1027	.1707	
	Harike14		.08000*	.01033	.000	.0460	.1140	
	Harike21		.07667*	.01033	.000	.0427	.1107	
	Harike 0	Harike7	Harike7	-.03667	.01106	.132	-.0878	.0144
			Harike14	-.09333*	.01054	.007	-.1443	-.0424
			Harike21	-.09667*	.01247	.007	-.1521	-.0412
			Harike28	-.17333*	.01054	.001	-.2243	-.1224
		Harike7	Harike 0	.03667	.01106	.132	-.0144	.0878
			Harike14	-.05667*	.00882	.015	-.0963	-.0170
			Harike21	-.06000*	.01106	.030	-.1111	-.0089
			Harike28	-.13667*	.00882	.001	-.1763	-.0970
		Harike14	Harike 0	.09333*	.01054	.007	.0424	.1443
			Harike7	.05667*	.00882	.015	.0170	.0963
			Harike21	-.00333	.01054	.997	-.0543	.0476
			Harike28	-.08000*	.00816	.003	-.1163	-.0437
	Harike21	Harike 0	.09667*	.01247	.007	.0412	.1521	
		Harike7	.06000*	.01106	.030	.0089	.1111	
		Harike14	.00333	.01054	.997	-.0476	.0543	
		Harike28	-.07667*	.01054	.014	-.1276	-.0257	
	Harike28	Harike 0	.17333*	.01054	.001	.1224	.2243	
		Harike7	.13667*	.00882	.001	.0970	.1763	
		Harike14	.08000*	.00816	.003	.0437	.1163	
		Harike21	.07667*	.01054	.014	.0257	.1276	
Dayasebar_F1	Tukey HSD	Harike 0	Harike7	-.03000*	.00667	.008	-.0519	-.0081
			Harike14	-.11000*	.00667	.000	-.1319	-.0881
			Harike21	-.14667*	.00667	.000	-.1686	-.1247
			Harike28	-.17333*	.00667	.000	-.1953	-.1514
		Harike7	Harike 0	.03000*	.00667	.008	.0081	.0519
			Harike14	-.08000*	.00667	.000	-.1019	-.0581
			Harike21	-.11667*	.00667	.000	-.1386	-.0947
			Harike28	-.14333*	.00667	.000	-.1653	-.1214
		Harike14	Harike 0	.11000*	.00667	.000	.0881	.1319
			Harike7	.08000*	.00667	.000	.0581	.1019
			Harike21	-.03667*	.00667	.002	-.0586	-.0147
			Harike28	-.06333*	.00667	.000	-.0853	-.0414
		Harike21	Harike 0	.14667*	.00667	.000	.1247	.1686
			Harike7	.11667*	.00667	.000	.0947	.1386
			Harike14	.03667*	.00667	.002	.0147	.0586
			Harike28	-.02667*	.00667	.017	-.0486	-.0047
		Harike28	Harike 0	.17333*	.00667	.000	.1514	.1953
			Harike7	.14333*	.00667	.000	.1214	.1653
			Harike14	.06333*	.00667	.000	.0414	.0853
			Harike21	.02667*	.00667	.017	.0047	.0486
	Games- Howell	Harike 0	Harike7	-.03000*	.00471	.014	-.0510	-.0090
			Harike14	-.11000*	.00745	.003	-.1501	-.0699
			Harike21	-.14667*	.00667	.001	-.1805	-.1129

Multiple Comparisons

			Mean			95% Confidence		
			Difference	Std.		Interval		
Dependent Variable	(I)	(J)	(I-J)	Error	Sig.	Lower	Upper	
	Harike_0	Harike_0				Bound	Bound	
		Harike28	-.17333*	.00471	.000	-.1943	-.1524	
	Harike7	Harike 0	.03000*	.00471	.014	.0090	.0510	
		Harike14	-.08000*	.00745	.007	-.1201	-.0399	
		Harike21	-.11667*	.00667	.001	-.1505	-.0829	
		Harike28	-.14333*	.00471	.000	-.1643	-.1224	
	Harike14	Harike 0	.11000*	.00745	.003	.0699	.1501	
		Harike7	.08000*	.00745	.007	.0399	.1201	
		Harike21	-.03667	.00882	.064	-.0763	.0030	
		Harike28	-.06333*	.00745	.014	-.1034	-.0232	
	Harike21	Harike 0	.14667*	.00667	.001	.1129	.1805	
		Harike7	.11667*	.00667	.001	.0829	.1505	
		Harike14	.03667	.00882	.064	-.0030	.0763	
		Harike28	-.02667	.00667	.095	-.0605	.0071	
	Harike28	Harike 0	.17333*	.00471	.000	.1524	.1943	
		Harike7	.14333*	.00471	.000	.1224	.1643	
		Harike14	.06333*	.00745	.014	.0232	.1034	
Harike21		.02667	.00667	.095	-.0071	.0605		
Dayasebar_F2	Tukey HSD	Harike 0	Harike7	-.09667*	.01398	.000	-.1427	-.0506
			Harike14	-.10667*	.01398	.000	-.1527	-.0606
			Harike21	-.17000*	.01398	.000	-.2160	-.1240
			Harike28	-.22000*	.01398	.000	-.2660	-.1740
		Harike7	Harike 0	.09667*	.01398	.000	.0506	.1427
			Harike14	-.01000	.01398	.948	-.0560	.0360
			Harike21	-.07333*	.01398	.003	-.1194	-.0273
			Harike28	-.12333*	.01398	.000	-.1694	-.0773
		Harike14	Harike 0	.10667*	.01398	.000	.0606	.1527
			Harike7	.01000	.01398	.948	-.0360	.0560
			Harike21	-.06333*	.01398	.008	-.1094	-.0173
			Harike28	-.11333*	.01398	.000	-.1594	-.0673
		Harike21	Harike 0	.17000*	.01398	.000	.1240	.2160
			Harike7	.07333*	.01398	.003	.0273	.1194
			Harike14	.06333*	.01398	.008	.0173	.1094
			Harike28	-.05000*	.01398	.032	-.0960	-.0040
		Harike28	Harike 0	.22000*	.01398	.000	.1740	.2660
			Harike7	.12333*	.01398	.000	.0773	.1694
			Harike14	.11333*	.01398	.000	.0673	.1594
			Harike21	.05000*	.01398	.032	.0040	.0960
	Games- Howell	Harike 0	Harike7	-.09667*	.01599	.041	-.1858	-.0075
			Harike14	-.10667*	.01700	.025	-.1912	-.0221
			Harike21	-.17000*	.01700	.006	-.2545	-.0855
			Harike28	-.22000*	.01700	.003	-.3045	-.1355
		Harike7	Harike 0	.09667*	.01599	.041	.0075	.1858
			Harike14	-.01000	.01106	.882	-.0611	.0411
			Harike21	-.07333*	.01106	.015	-.1244	-.0222
			Harike28	-.12333*	.01106	.002	-.1744	-.0722
		Harike14	Harike 0	.10667*	.01700	.025	.0221	.1912
			Harike7	.01000	.01106	.882	-.0411	.0611
			Harike21	-.06333*	.01247	.032	-.1188	-.0079
			Harike28	-.11333*	.01247	.004	-.1688	-.0579
		Harike21	Harike 0	.17000*	.01700	.006	.0855	.2545
			Harike7	.07333*	.01106	.015	.0222	.1244
			Harike14	.06333*	.01247	.032	.0079	.1188
			Harike28	-.05000	.01247	.070	-.1054	.0054
		Harike28	Harike 0	.22000*	.01700	.003	.1355	.3045
			Harike7	.12333*	.01106	.002	.0722	.1744
			Harike14	.11333*	.01247	.004	.0579	.1688
			Harike21	.05000	.01247	.070	-.0054	.1054
Dayasebar_F3		Harike 0	Harike7	-.01000	.21102	1.000	-.7045	.6845

Multiple Comparisons

Dependent Variable	(I) Harike_0	(J) Harike_0	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval				
						Lower Bound	Upper Bound			
Tukey HSD		Harike14	.30000	.21102	.629	-.3945	.9945			
		Harike21	.41333	.21102	.349	-.2811	1.1078			
		Harike28	.28000	.21102	.682	-.4145	.9745			
		Harike7	Harike 0	.01000	.21102	1.000	-.6845	.7045		
		Harike14	.31000	.21102	.602	-.3845	1.0045			
		Harike21	.42333	.21102	.329	-.2711	1.1178			
		Harike28	.29000	.21102	.656	-.4045	.9845			
		Harike14	Harike 0	-.30000	.21102	.629	-.9945	.3945		
		Harike7	-.31000	.21102	.602	-1.0045	.3845			
		Harike21	.11333	.21102	.981	-.5811	.8078			
		Harike28	-.02000	.21102	1.000	-.7145	.6745			
		Harike21	Harike 0	-.41333	.21102	.349	-1.1078	.2811		
		Harike7	-.42333	.21102	.329	-1.1178	.2711			
		Harike14	-.11333	.21102	.981	-.8078	.5811			
		Harike28	-.13333	.21102	.966	-.8278	.5611			
		Harike28	Harike 0	-.28000	.21102	.682	-.9745	.4145		
		Harike7	-.29000	.21102	.656	-.9845	.4045			
		Harike14	.02000	.21102	1.000	-.6745	.7145			
		Harike21	.13333	.21102	.966	-.5611	.8278			
		Games- Howell	Harike 0	Harike7	-0.01000	.00471	.359	-.0310	.0110	
			Harike14	.30000	.33340	.878	-2.2646	2.8646		
			Harike21	.41333*	.00943	.000	.3567	.4700		
			Harike28	.28000*	.00943	.001	.2233	.3367		
			Harike7	Harike 0	.01000	.00471	.359	-.0110	.0310	
	Harike14		.31000	.33340	.867	-2.2546	2.8746			
	Harike21		.42333*	.00943	.000	.3667	.4800			
	Harike28		.29000*	.00943	.001	.2333	.3467			
	Harike14		Harike 0	-.30000	.33340	.878	-2.8646	2.2646		
	Harike7		-.31000	.33340	.867	-2.8746	2.2546			
	Harike21		.11333	.33350	.995	-2.4485	2.6752			
	Harike28		-.02000	.33350	1.000	-2.5819	2.5419			
	Harike21		Harike 0	-.41333*	.00943	.000	-.4700	-.3567		
	Harike7		-.42333*	.00943	.000	-.4800	-.3667			
	Harike14		-.11333	.33350	.995	-2.6752	2.4485			
	Harike28		-.13333*	.01247	.002	-.1888	-.0779			
	Harike28		Harike 0	-.28000*	.00943	.001	-.3367	-.2233		
	Harike7		-.29000*	.00943	.001	-.3467	-.2333			
	Harike14		.02000	.33350	1.000	-2.5419	2.5819			
	Harike21		.13333*	.01247	.002	.0779	.1888			
	Dayasebar_F4		Tukey HSD	Harike 0	Harike7	-.07000*	.01135	.001	-.1074	-.0326
					Harike14	-.10333*	.01135	.000	-.1407	-.0660
					Harike21	-.12333*	.01135	.000	-.1607	-.0860
					Harike28	-.16333*	.01135	.000	-.2007	-.1260
		Harike7		Harike 0	.07000*	.01135	.001	.0326	.1074	
				Harike14	-.03333	.01135	.087	-.0707	.0040	
				Harike21	-.05333*	.01135	.006	-.0907	-.0160	
				Harike28	-.09333*	.01135	.000	-.1307	-.0560	
		Harike14		Harike 0	.10333*	.01135	.000	.0660	.1407	
Harike7				.03333	.01135	.087	-.0040	.0707		
Harike21				-.02000	.01135	.443	-.0574	.0174		
Harike28				-.06000*	.01135	.003	-.0974	-.0226		
Harike21		Harike 0		.12333*	.01135	.000	.0860	.1607		
		Harike7		.05333*	.01135	.006	.0160	.0907		
		Harike14		.02000	.01135	.443	-.0174	.0574		
		Harike28		-.04000*	.01135	.035	-.0774	-.0026		
Harike28		Harike 0		.16333*	.01135	.000	.1260	.2007		
		Harike7		.09333*	.01135	.000	.0560	.1307		
		Harike14		.06000*	.01135	.003	.0226	.0974		

Multiple Comparisons

Dependent Variable	(I) Harike_0	(J) Harike_0	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Games- Howell	Harike 0	Harike21	.04000*	.01135	.035	.0026	.0774
		Harike7	-.07000	.01491	.110	-.1729	.0329
		Harike14	-.10333*	.00471	.000	-.1243	-.0824
		Harike28	-.12333*	.00471	.000	-.1443	-.1024
	Harike7	Harike 0	.07000	.01491	.110	-.0329	.1729
		Harike14	-.03333	.01491	.399	-.1363	.0696
		Harike21	-.05333	.01491	.185	-.1563	.0496
		Harike28	-.09333*	.01700	.037	-.1779	-.0088
	Harike14	Harike 0	.10333*	.00471	.000	.0824	.1243
		Harike7	.03333	.01491	.399	-.0696	.1363
		Harike21	-.02000	.00471	.058	-.0410	.0010
		Harike28	-.06000*	.00943	.044	-.1167	-.0033
	Harike21	Harike 0	.12333*	.00471	.000	.1024	.1443
		Harike7	.05333	.01491	.185	-.0496	.1563
		Harike14	.02000	.00471	.058	-.0010	.0410
		Harike28	-.04000	.00943	.111	-.0967	.0167
	Harike28	Harike 0	.16333*	.00943	.004	.1067	.2200
		Harike7	.09333*	.01700	.037	.0088	.1779
		Harike14	.06000*	.00943	.044	.0033	.1167
		Harike21	.04000	.00943	.111	-.0167	.0967

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

Lampiran 23. Hasil Analisis Statistik pH cycling test

- Uji Homogenitas

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
pH_F0	.965	5	12	.477
pH_F1	.731	5	12	.614
pH_F2	1.273	5	12	.337
pH_F3	3.823	5	12	.026
pH_F4	15.983	5	12	.000

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
pH_F0	Between Groups	.013	5	.003	28.200	.000
	Within Groups	.001	12	.000		
	Total	.014	17			
pH_F1	Between Groups	.027	5	.005	35.143	.000
	Within Groups	.002	12	.000		
	Total	.029	17			
pH_F2	Between Groups	.047	5	.009	41.920	.000
	Within Groups	.003	12	.000		
	Total	.049	17			
pH_F3	Between Groups	.296	5	.059	164.185	.000
	Within Groups	.004	12	.000		
	Total	.301	17			
pH_F4	Between Groups	825.377	5	165.075	.988	.465
	Within Groups	2005.686	12	167.140		
	Total	2831.063	17			

- Uji *Kruskal – Wallis test*

Test Statistics^{a,b}

	pH_F0	pH_F1	pH_F2	pH_F3	pH_F4
Chi-Square	14.867	14.276	15.604	13.273	10.008
df	5	5	5	5	5
Asymp. Sig.	.011	.014	.008	.021	.075

- Uji Lanjutan *Post Hoc*

Multiple Comparisons

Dependent Variable	(I)	(J)	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
	Siklus_ke1	Siklus_ke1				Lower Bound	Upper Bound
pH_F0 Tukey HSD	siklus_ke1	siklus_ke2	.01000	.00770	.780	-.0159	.0359
		siklus_ke3	.04333*	.00770	.001	.0175	.0692
		siklus_ke4	.05667*	.00770	.000	.0308	.0825

Multiple Comparisons

Dependent Variable	(I) Siklus_ke1	(J) Siklus_ke1	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
	siklus_ke2	siklus_ke5	.05667*	.00770	.000	.0308	.0825
		siklus_ke6	.07333*	.00770	.000	.0475	.0992
		siklus_ke1	-.01000	.00770	.780	-.0359	.0159
		siklus_ke3	.03333*	.00770	.010	.0075	.0592
		siklus_ke4	.04667*	.00770	.001	.0208	.0725
		siklus_ke5	.04667*	.00770	.001	.0208	.0725
	siklus_ke3	siklus_ke6	.06333*	.00770	.000	.0375	.0892
		siklus_ke1	-.04333*	.00770	.001	-.0692	-.0175
		siklus_ke2	-.03333*	.00770	.010	-.0592	-.0075
		siklus_ke4	.01333	.00770	.538	-.0125	.0392
		siklus_ke5	.01333	.00770	.538	-.0125	.0392
		siklus_ke6	.03000*	.00770	.020	.0041	.0559
	siklus_ke4	siklus_ke1	-.05667*	.00770	.000	-.0825	-.0308
		siklus_ke2	-.04667*	.00770	.001	-.0725	-.0208
		siklus_ke3	-.01333	.00770	.538	-.0392	.0125
		siklus_ke5	.00000	.00770	1.000	-.0259	.0259
		siklus_ke6	.01667	.00770	.320	-.0092	.0425
	siklus_ke5	siklus_ke1	-.05667*	.00770	.000	-.0825	-.0308
		siklus_ke2	-.04667*	.00770	.001	-.0725	-.0208
		siklus_ke3	-.01333	.00770	.538	-.0392	.0125
		siklus_ke4	.00000	.00770	1.000	-.0259	.0259
		siklus_ke6	.01667	.00770	.320	-.0092	.0425
	siklus_ke6	siklus_ke1	-.07333*	.00770	.000	-.0992	-.0475
		siklus_ke2	-.06333*	.00770	.000	-.0892	-.0375
		siklus_ke3	-.03000*	.00770	.020	-.0559	-.0041
		siklus_ke4	-.01667	.00770	.320	-.0425	.0092
		siklus_ke5	-.01667	.00770	.320	-.0425	.0092
Games-Howell	siklus_ke1	siklus_ke2	.01000	.00471	.420	-.0124	.0324
		siklus_ke3	.04333	.00943	.110	-.0175	.1042
		siklus_ke4	.05667*	.00667	.013	.0205	.0929
		siklus_ke5	.05667*	.00667	.013	.0205	.0929
		siklus_ke6	.07333*	.00471	.001	.0510	.0957
	siklus_ke2	siklus_ke1	-.01000	.00471	.420	-.0324	.0124
		siklus_ke3	.03333	.00943	.191	-.0275	.0942
		siklus_ke4	.04667*	.00667	.024	.0105	.0829
		siklus_ke5	.04667*	.00667	.024	.0105	.0829
		siklus_ke6	.06333*	.00471	.001	.0410	.0857
	siklus_ke3	siklus_ke1	-.04333	.00943	.110	-.1042	.0175
		siklus_ke2	-.03333	.00943	.191	-.0942	.0275
		siklus_ke4	.01333	.01054	.791	-.0412	.0678
		siklus_ke5	.01333	.01054	.791	-.0412	.0678
		siklus_ke6	.03000	.00943	.236	-.0309	.0909
	siklus_ke4	siklus_ke1	-.05667*	.00667	.013	-.0929	-.0205
		siklus_ke2	-.04667*	.00667	.024	-.0829	-.0105
		siklus_ke3	-.01333	.01054	.791	-.0678	.0412
		siklus_ke5	.00000	.00816	1.000	-.0387	.0387
		siklus_ke6	.01667	.00667	.331	-.0195	.0529
	siklus_ke5	siklus_ke1	-.05667*	.00667	.013	-.0929	-.0205
		siklus_ke2	-.04667*	.00667	.024	-.0829	-.0105
		siklus_ke3	-.01333	.01054	.791	-.0678	.0412
		siklus_ke4	.00000	.00816	1.000	-.0387	.0387
		siklus_ke6	.01667	.00667	.331	-.0195	.0529
	siklus_ke6	siklus_ke1	-.07333*	.00471	.001	-.0957	-.0510
		siklus_ke2	-.06333*	.00471	.001	-.0857	-.0410
		siklus_ke3	-.03000	.00943	.236	-.0909	.0309
		siklus_ke4	-.01667	.00667	.331	-.0529	.0195
		siklus_ke5	-.01667	.00667	.331	-.0529	.0195
pH_F1	siklus_ke1	siklus_ke2	-.00333	.01018	.999	-.0375	.0309

Multiple Comparisons

Dependent Variable	(I) Siklus_ke1	(J) Siklus_ke1	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound	Upper Bound
Tukey HSD		siklus_ke3	-.01333	.01018	.775	-.0475	.0209
		siklus_ke4	.02000	.01018	.413	-.0142	.0542
		siklus_ke5	.03333	.01018	.058	-.0009	.0675
		siklus_ke6	.10333*	.01018	.000	.0691	.1375
	siklus_ke2	siklus_ke1	.00333	.01018	.999	-.0309	.0375
		siklus_ke3	-.01000	.01018	.915	-.0442	.0242
		siklus_ke4	.02333	.01018	.269	-.0109	.0575
		siklus_ke5	.03667*	.01018	.033	.0025	.0709
		siklus_ke6	.10667*	.01018	.000	.0725	.1409
	siklus_ke3	siklus_ke1	.01333	.01018	.775	-.0209	.0475
		siklus_ke2	.01000	.01018	.915	-.0242	.0442
		siklus_ke4	.03333	.01018	.058	-.0009	.0675
		siklus_ke5	.04667*	.01018	.006	.0125	.0809
		siklus_ke6	.11667*	.01018	.000	.0825	.1509
	siklus_ke4	siklus_ke1	-.02000	.01018	.413	-.0542	.0142
		siklus_ke2	-.02333	.01018	.269	-.0575	.0109
		siklus_ke3	-.03333	.01018	.058	-.0675	.0009
		siklus_ke5	.01333	.01018	.775	-.0209	.0475
		siklus_ke6	.08333*	.01018	.000	.0491	.1175
	siklus_ke5	siklus_ke1	-.03333	.01018	.058	-.0675	.0009
		siklus_ke2	-.03667*	.01018	.033	-.0709	-.0025
		siklus_ke3	-.04667*	.01018	.006	-.0809	-.0125
		siklus_ke4	-.01333	.01018	.775	-.0475	.0209
	siklus_ke6	siklus_ke1	.07000*	.01018	.000	.0358	.1042
		siklus_ke2	-.10333*	.01018	.000	-.1375	-.0691
		siklus_ke3	-.10667*	.01018	.000	-.1409	-.0725
		siklus_ke4	-.11667*	.01018	.000	-.1509	-.0825
Games- Howell		siklus_ke1	-.08333*	.01018	.000	-.1175	-.0491
		siklus_ke5	-.07000*	.01018	.000	-.1042	-.0358
	siklus_ke1	siklus_ke2	-.00333	.01054	.999	-.0578	.0512
		siklus_ke3	-.01333	.01054	.791	-.0678	.0412
		siklus_ke4	.02000	.01247	.636	-.0391	.0791
		siklus_ke5	.03333	.00943	.191	-.0275	.0942
		siklus_ke6	.10333*	.01247	.007	.0442	.1625
	siklus_ke2	siklus_ke1	.00333	.01054	.999	-.0512	.0578
		siklus_ke3	-.01000	.00816	.809	-.0487	.0287
		siklus_ke4	.02333	.01054	.404	-.0312	.0778
		siklus_ke5	.03667*	.00667	.048	.0005	.0729
		siklus_ke6	.10667*	.01054	.006	.0522	.1612
	siklus_ke3	siklus_ke1	.01333	.01054	.791	-.0412	.0678
		siklus_ke2	.01000	.00816	.809	-.0287	.0487
		siklus_ke4	.03333	.01054	.191	-.0212	.0878
		siklus_ke5	.04667*	.00667	.024	.0105	.0829
		siklus_ke6	.11667*	.01054	.004	.0622	.1712
	siklus_ke4	siklus_ke1	-.02000	.01247	.636	-.0791	.0391
		siklus_ke2	-.02333	.01054	.404	-.0778	.0312
		siklus_ke3	-.03333	.01054	.191	-.0878	.0212
		siklus_ke5	.01333	.00943	.730	-.0475	.0742
		siklus_ke6	.08333*	.01247	.015	.0242	.1425
	siklus_ke5	siklus_ke1	-.03333	.00943	.191	-.0942	.0275
		siklus_ke2	-.03667*	.00667	.048	-.0729	-.0005
		siklus_ke3	-.04667*	.00667	.024	-.0829	-.0105
		siklus_ke4	-.01333	.00943	.730	-.0742	.0475
	siklus_ke6	siklus_ke5	.07000*	.00943	.036	.0091	.1309
		siklus_ke1	-.10333*	.01247	.007	-.1625	-.0442
		siklus_ke2	-.10667*	.01054	.006	-.1612	-.0522
		siklus_ke3	-.11667*	.01054	.004	-.1712	-.0622
	siklus_ke4	siklus_ke4	-.08333*	.01247	.015	-.1425	-.0242
		siklus_ke5	-.07000*	.00943	.036	-.1309	-.0091

Multiple Comparisons

Dependent Variable		(I)	(J)	Mean			95% Confidence Interval	
		Siklus_ke1	Siklus_ke1	Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
pH_F2	Tukey HSD	siklus_ke1	siklus_ke2	-.00667	.01217	.993	-.0476	.0342
			siklus_ke3	.05333*	.01217	.009	.0124	.0942
			siklus_ke4	.05333*	.01217	.009	.0124	.0942
			siklus_ke5	.09333*	.01217	.000	.0524	.1342
			siklus_ke6	.14000*	.01217	.000	.0991	.1809
		siklus_ke2	siklus_ke1	.00667	.01217	.993	-.0342	.0476
			siklus_ke3	.06000*	.01217	.004	.0191	.1009
			siklus_ke4	.06000*	.01217	.004	.0191	.1009
			siklus_ke5	.10000*	.01217	.000	.0591	.1409
			siklus_ke6	.14667*	.01217	.000	.1058	.1876
		siklus_ke3	siklus_ke1	-.05333*	.01217	.009	-.0942	-.0124
			siklus_ke2	-.06000*	.01217	.004	-.1009	-.0191
			siklus_ke4	.00000	.01217	1.000	-.0409	.0409
			siklus_ke5	.04000	.01217	.056	-.0009	.0809
			siklus_ke6	.08667*	.01217	.000	.0458	.1276
		siklus_ke4	siklus_ke1	-.05333*	.01217	.009	-.0942	-.0124
			siklus_ke2	-.06000*	.01217	.004	-.1009	-.0191
			siklus_ke3	.00000	.01217	1.000	-.0409	.0409
			siklus_ke5	.04000	.01217	.056	-.0009	.0809
			siklus_ke6	.08667*	.01217	.000	.0458	.1276
		siklus_ke5	siklus_ke1	-.09333*	.01217	.000	-.1342	-.0524
			siklus_ke2	-.10000*	.01217	.000	-.1409	-.0591
			siklus_ke3	-.04000	.01217	.056	-.0809	.0009
			siklus_ke4	-.04000	.01217	.056	-.0809	.0009
			siklus_ke6	.04667*	.01217	.022	.0058	.0876
		siklus_ke6	siklus_ke1	-.14000*	.01217	.000	-.1809	-.0991
			siklus_ke2	-.14667*	.01217	.000	-.1876	-.1058
			siklus_ke3	-.08667*	.01217	.000	-.1276	-.0458
			siklus_ke4	-.08667*	.01217	.000	-.1276	-.0458
			siklus_ke5	-.04667*	.01217	.022	-.0876	-.0058
	Games- Howell	siklus_ke1	siklus_ke2	-.00667	.00667	.894	-.0429	.0295
			siklus_ke3	.05333	.01054	.053	-.0012	.1078
			siklus_ke4	.05333	.01054	.053	-.0012	.1078
			siklus_ke5	.09333	.01563	.058	-.0057	.1924
			siklus_ke6	.14000*	.00816	.000	.1013	.1787
		siklus_ke2	siklus_ke1	.00667	.00667	.894	-.0295	.0429
			siklus_ke3	.06000	.00943	.052	-.0009	.1209
			siklus_ke4	.06000	.00943	.052	-.0009	.1209
			siklus_ke5	.10000	.01491	.062	-.0108	.2108
			siklus_ke6	.14667*	.00667	.001	.1105	.1829
		siklus_ke3	siklus_ke1	-.05333	.01054	.053	-.1078	.0012
			siklus_ke2	-.06000	.00943	.052	-.1209	.0009
			siklus_ke4	.00000	.01247	1.000	-.0591	.0591
			siklus_ke5	.04000	.01700	.367	-.0504	.1304
			siklus_ke6	.08667*	.01054	.012	.0322	.1412
		siklus_ke4	siklus_ke1	-.05333	.01054	.053	-.1078	.0012
			siklus_ke2	-.06000	.00943	.052	-.1209	.0009
			siklus_ke3	.00000	.01247	1.000	-.0591	.0591
			siklus_ke5	.04000	.01700	.367	-.0504	.1304
			siklus_ke6	.08667*	.01054	.012	.0322	.1412
		siklus_ke5	siklus_ke1	-.09333	.01563	.058	-.1924	.0057
			siklus_ke2	-.10000	.01491	.062	-.2108	.0108
			siklus_ke3	-.04000	.01700	.367	-.1304	.0504
			siklus_ke4	-.04000	.01700	.367	-.1304	.0504
			siklus_ke6	.04667	.01563	.262	-.0524	.1457
		siklus_ke6	siklus_ke1	-.14000*	.00816	.000	-.1787	-.1013
			siklus_ke2	-.14667*	.00667	.001	-.1829	-.1105
			siklus_ke3	-.08667*	.01054	.012	-.1412	-.0322

Multiple Comparisons

						95% Confidence Interval		
Dependent Variable		(I) Siklus_ke1	(J) Siklus_ke1	Mean Difference (I-J)	Std. Error	Sig.	Lower Bound Upper Bound	
pH_F3	Tukey HSD	siklus_ke1	siklus_ke4	-.08667*	.01054	.012	-.1412	-.0322
			siklus_ke5	-.04667	.01563	.262	-.1457	.0524
			siklus_ke2	.00333	.01552	1.000	-.0488	.0554
			siklus_ke3	.00333	.01552	1.000	-.0488	.0554
			siklus_ke4	.02000	.01552	.786	-.0321	.0721
			siklus_ke5	.23000*	.01552	.000	.1779	.2821
		siklus_ke2	siklus_ke6	.31667*	.01552	.000	.2646	.3688
			siklus_ke1	-.00333	.01552	1.000	-.0554	.0488
			siklus_ke3	.00000	.01552	1.000	-.0521	.0521
			siklus_ke4	.01667	.01552	.882	-.0354	.0688
			siklus_ke5	.22667*	.01552	.000	.1746	.2788
			siklus_ke6	.31333*	.01552	.000	.2612	.3654
		siklus_ke3	siklus_ke1	-.00333	.01552	1.000	-.0554	.0488
			siklus_ke2	.00000	.01552	1.000	-.0521	.0521
			siklus_ke4	.01667	.01552	.882	-.0354	.0688
			siklus_ke5	.22667*	.01552	.000	.1746	.2788
			siklus_ke6	.31333*	.01552	.000	.2612	.3654
			siklus_ke4	siklus_ke1	-.02000	.01552	.786	-.0721
		siklus_ke2		-.01667	.01552	.882	-.0688	.0354
		siklus_ke3		-.01667	.01552	.882	-.0688	.0354
		siklus_ke5		.21000*	.01552	.000	.1579	.2621
		siklus_ke6		.29667*	.01552	.000	.2446	.3488
		siklus_ke5		siklus_ke1	-.23000*	.01552	.000	-.2821
			siklus_ke2	-.22667*	.01552	.000	-.2788	-.1746
			siklus_ke3	-.22667*	.01552	.000	-.2788	-.1746
			siklus_ke4	-.21000*	.01552	.000	-.2621	-.1579
			siklus_ke6	.08667*	.01552	.001	.0346	.1388
			siklus_ke6	siklus_ke1	-.31667*	.01552	.000	-.3688
		siklus_ke2		-.31333*	.01552	.000	-.3654	-.2612
		siklus_ke3		-.31333*	.01552	.000	-.3654	-.2612
	siklus_ke4	-.29667*		.01552	.000	-.3488	-.2446	
	siklus_ke5	-.08667*		.01552	.001	-.1388	-.0346	
	Games-Howell	siklus_ke1		siklus_ke2	.00333	.00471	.971	-.0190
			siklus_ke3	.00333	.00745	.995	-.0397	.0463
			siklus_ke4	.02000	.01247	.657	-.0688	.1088
			siklus_ke5	.23000*	.01700	.015	.1006	.3594
			siklus_ke6	.31667*	.01563	.006	.1993	.4340
			siklus_ke2	siklus_ke1	-.00333	.00471	.971	-.0257
		siklus_ke3		.00000	.00745	1.000	-.0430	.0430
		siklus_ke4		.01667	.01247	.763	-.0721	.1055
		siklus_ke5		.22667*	.01700	.015	.0972	.3561
		siklus_ke6		.31333*	.01563	.006	.1960	.4307
		siklus_ke3		siklus_ke1	-.00333	.00745	.995	-.0463
			siklus_ke2	.00000	.00745	1.000	-.0430	.0430
			siklus_ke4	.01667	.01374	.813	-.0592	.0925
			siklus_ke5	.22667*	.01795	.009	.1132	.3401
			siklus_ke6	.31333*	.01667	.003	.2116	.4151
			siklus_ke4	siklus_ke1	-.02000	.01247	.657	-.1088
		siklus_ke2		-.01667	.01247	.763	-.1055	.0721
		siklus_ke3		-.01667	.01374	.813	-.0925	.0592
		siklus_ke5		.21000*	.02055	.005	.1072	.3128
		siklus_ke6		.29667*	.01944	.001	.2017	.3916
		siklus_ke5		siklus_ke1	-.23000*	.01700	.015	-.3594
			siklus_ke2	-.22667*	.01700	.015	-.3561	-.0972
			siklus_ke3	-.22667*	.01795	.009	-.3401	-.1132
			siklus_ke4	-.21000*	.02055	.005	-.3128	-.1072
			siklus_ke6	.08667	.02261	.099	-.0210	.1943
			siklus_ke6	siklus_ke1	-.31667*	.01563	.006	-.4340

Multiple Comparisons

Dependent Variable		(I) Siklus_ke1	(J) Siklus_ke1	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound Upper Bound	
pH_F4	Tukey HSD	siklus_ke1	siklus_ke2	-.31333*	.01563	.006	-.4307	-.1960
			siklus_ke3	-.31333*	.01667	.003	-.4151	-.2116
			siklus_ke4	-.29667*	.01944	.001	-.3916	-.2017
			siklus_ke5	-.08667	.02261	.099	-.1943	.0210
		siklus_ke2	siklus_ke1	-.00667	10.55590	1.000	-35.4631	35.4498
			siklus_ke3	.09000	10.55590	1.000	-35.3664	35.5464
			siklus_ke4	.07333	10.55590	1.000	-35.3831	35.5298
			siklus_ke5	.17333	10.55590	1.000	-35.2831	35.6298
		siklus_ke3	siklus_ke1	-.09000	10.55590	1.000	-35.5464	35.3664
			siklus_ke2	-.09667	10.55590	1.000	-35.5531	35.3598
			siklus_ke4	-.01667	10.55590	1.000	-35.4731	35.4398
			siklus_ke5	.08333	10.55590	1.000	-35.3731	35.5398
		siklus_ke4	siklus_ke1	-.07333	10.55590	1.000	-35.5298	35.3831
			siklus_ke2	-.08000	10.55590	1.000	-35.5364	35.3764
			siklus_ke3	.01667	10.55590	1.000	-35.4398	35.4731
			siklus_ke5	.10000	10.55590	1.000	-35.3564	35.5564
		siklus_ke5	siklus_ke1	-.17333	10.55590	1.000	-35.6298	35.2831
			siklus_ke2	-.18000	10.55590	1.000	-35.6364	35.2764
			siklus_ke3	-.08333	10.55590	1.000	-35.5398	35.3731
			siklus_ke4	-.10000	10.55590	1.000	-35.5564	35.3564
		siklus_ke6	siklus_ke1	-.18.27667	10.55590	.538	-53.7331	17.1798
			siklus_ke2	18.10333	10.55590	.548	-17.3531	53.5598
			siklus_ke3	18.09667	10.55590	.548	-17.3598	53.5531
			siklus_ke4	18.19333	10.55590	.543	-17.2631	53.6498
		siklus_ke6	siklus_ke1	18.17667	10.55590	.544	-17.2798	53.6331
			siklus_ke2	18.27667	10.55590	.538	-17.1798	53.7331
			siklus_ke3	18.10333	10.55590	.548	-17.3531	53.5598
			siklus_ke4	18.09667	10.55590	.548	-17.3598	53.5531
		siklus_ke3	siklus_ke1	-.09000	.02082	.141	-.2366	.0566
			siklus_ke2	-.09667	.02404	.101	-.2201	.0268
			siklus_ke4	-.01667	.02108	.949	-.1589	.1256
			siklus_ke5	.08333	.02028	.173	-.0749	.2416
		siklus_ke4	siklus_ke1	-.07333*	.00882	.007	-.1156	-.0311
			siklus_ke2	-.08000	.01491	.060	-.1660	.0060
			siklus_ke3	.01667	.02108	.949	-.1256	.1589
			siklus_ke5	.10000*	.00745	.005	.0570	.1430
		siklus_ke5	siklus_ke1	-.17333*	.00667	.000	-.2095	-.1371
			siklus_ke2	-.18000*	.01374	.014	-.2803	-.0797
			siklus_ke3	-.08333	.02028	.173	-.2416	.0749
			siklus_ke4	-.10000*	.00745	.005	-.1430	-.0570

Multiple Comparisons

Dependent Variable	(I)	(J)	Mean			95% Confidence Interval	
	Siklus_ke1	Siklus_ke1	Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
	siklus_ke6	siklus_ke6	-18.27667	18.28333	.887	-169.9808	133.4275
		siklus_ke1	18.10333	18.28334	.890	-133.6008	169.8075
		siklus_ke2	18.09667	18.28334	.890	-133.6073	169.8007
		siklus_ke3	18.19333	18.28335	.888	-133.5105	169.8972
		siklus_ke4	18.17667	18.28334	.889	-133.5275	169.8808
		siklus_ke5	18.27667	18.28333	.887	-133.4275	169.9808

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

Lampiran 24. Hasil Analisis Statistik Viskositas *cyling test*

- Uji Normalitas

		Tests of Normality					
		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Siklus ke	Statistic	df	Sig.	Statistic	df	Sig.
viskosita_F0	siklus_ke1	.292	3	.	.923	3	.463
	siklus_ke2	.385	3	.	.750	3	.000
	siklus_ke3	.253	3	.	.964	3	.637
	siklus_ke4	.385	3	.	.750	3	.000
	siklus_ke5	.253	3	.	.964	3	.637
	siklus_ke6	.385	3	.	.750	3	.000
viskositas_F1	siklus_ke1	.385	3	.	.750	3	.000
	siklus_ke2	.385	3	.	.750	3	.000
	siklus_ke3	.385	3	.	.750	3	.000
	siklus_ke4	.385	3	.	.750	3	.000
	siklus_ke5	.253	3	.	.964	3	.637
	siklus_ke6	.385	3	.	.750	3	.000
viskositas_F2	siklus_ke1	.253	3	.	.964	3	.637
	siklus_ke2	.253	3	.	.964	3	.637
	siklus_ke3	.385	3	.	.750	3	.000
	siklus_ke4	.385	3	.	.750	3	.000
	siklus_ke5	.292	3	.	.923	3	.463
	siklus_ke6	.175	3	.	1.000	3	1.000
viskositas_F3	siklus_ke1	.253	3	.	.964	3	.637
	siklus_ke2	.253	3	.	.964	3	.637
	siklus_ke3	.292	3	.	.923	3	.463
	siklus_ke4	.253	3	.	.964	3	.637
	siklus_ke5	.385	3	.	.750	3	.000
	siklus_ke6	.292	3	.	.923	3	.463
viskositas_F4	siklus_ke1	.253	3	.	.964	3	.637
	siklus_ke2	.385	3	.	.750	3	.000
	siklus_ke3	.385	3	.	.750	3	.000
	siklus_ke4	.385	3	.	.750	3	.000
	siklus_ke5	.292	3	.	.923	3	.463
	siklus_ke6	.292	3	.	.923	3	.463

- Uji Homogenitas

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
viskosita_F0	1.773	5	12	.193
viskositas_F1	1.925	5	12	.164

viskositas_F2	1.243	5	12	.349
viskositas_F3	.444	5	12	.809
viskositas_F4	1.507	5	12	.259

		ANOVA				
		Sum of Squares	df	Mean Square	F	Sig.
viskosita_F0	Between Groups	3740.000	5	748.000	408.000	.000
	Within Groups	22.000	12	1.833		
	Total	3762.000	17			
viskositas_F1	Between Groups	2108.944	5	421.789	292.008	.000
	Within Groups	17.333	12	1.444		
	Total	2126.278	17			
viskositas_F2	Between Groups	42831.611	5	8566.322	3760.824	.000
	Within Groups	27.333	12	2.278		
	Total	42858.944	17			
viskositas_F3	Between Groups	57736.444	5	11547.289	4075.514	.000
	Within Groups	34.000	12	2.833		
	Total	57770.444	17			
viskositas_F4	Between Groups	29700.944	5	5940.189	2545.795	.000
	Within Groups	28.000	12	2.333		
	Total	29728.944	17			

- Uji *kruskal wallis test*

Test Statistics ^{a,b}					
	viskosita_F0	viskositas_F1	viskositas_F2	viskositas_F3	viskositas_F4
Chi-Square	13.973	14.067	12.217	14.973	15.258
df	5	5	5	5	5
Asymp. Sig.	.016	.015	.032	.010	.009

- Uji Lanjutan *post hoc*

Multiple Comparisons

		(I)	(J)	Mean Difference	Std.		95% Confidence Interval	
Dependent Variable		Siklus_ke	Siklus_ke	(I-J)	Error	Sig.	Lower Bound	Upper Bound
viskosita_F0	Tukey HSD	siklus_ke1	siklus_ke2	1.00000	1.10554	.938	-2.7134	4.7134
			siklus_ke3	1.33333	1.10554	.826	-2.3801	5.0468
			siklus_ke4	2.33333	1.10554	.343	-1.3801	6.0468
			siklus_ke5	-30.66667*	1.10554	.000	-34.3801	-26.9532
			siklus_ke6	-28.00000*	1.10554	.000	-31.7134	-24.2866
		siklus_ke2	siklus_ke1	-1.00000	1.10554	.938	-4.7134	2.7134
			siklus_ke3	.33333	1.10554	1.000	-3.3801	4.0468
			siklus_ke4	1.33333	1.10554	.826	-2.3801	5.0468
			siklus_ke5	-31.66667*	1.10554	.000	-35.3801	-27.9532
			siklus_ke6	-29.00000*	1.10554	.000	-32.7134	-25.2866
		siklus_ke3	siklus_ke1	-1.33333	1.10554	.826	-5.0468	2.3801
			siklus_ke2	-.33333	1.10554	1.000	-4.0468	3.3801
			siklus_ke4	1.00000	1.10554	.938	-2.7134	4.7134
			siklus_ke5	-32.00000*	1.10554	.000	-35.7134	-28.2866

Multiple Comparisons

Dependent Variable	(I) Siklus_ke	(J) Siklus_ke	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound Upper Bound	
Games- Howell	siklus_ke4	siklus_ke6	-29.33333*	1.10554	.000	-33.0468	-25.6199
		siklus_ke1	-2.33333	1.10554	.343	-6.0468	1.3801
		siklus_ke2	-1.33333	1.10554	.826	-5.0468	2.3801
		siklus_ke3	-1.00000	1.10554	.938	-4.7134	2.7134
		siklus_ke5	-33.00000*	1.10554	.000	-36.7134	-29.2866
	siklus_ke5	siklus_ke6	-30.33333*	1.10554	.000	-34.0468	-26.6199
		siklus_ke1	30.66667*	1.10554	.000	26.9532	34.3801
		siklus_ke2	31.66667*	1.10554	.000	27.9532	35.3801
		siklus_ke3	32.00000*	1.10554	.000	28.2866	35.7134
		siklus_ke4	33.00000*	1.10554	.000	29.2866	36.7134
	siklus_ke6	siklus_ke6	2.66667	1.10554	.226	-1.0468	6.3801
		siklus_ke1	28.00000*	1.10554	.000	24.2866	31.7134
		siklus_ke2	29.00000*	1.10554	.000	25.2866	32.7134
		siklus_ke3	29.33333*	1.10554	.000	25.6199	33.0468
		siklus_ke4	30.33333*	1.10554	.000	26.6199	34.0468
	siklus_ke1	siklus_ke5	-2.66667	1.10554	.226	-6.3801	1.0468
		siklus_ke2	1.00000	1.24722	.945	-7.8795	9.8795
		siklus_ke3	1.33333	1.49071	.928	-6.0857	8.7524
		siklus_ke4	2.33333	1.24722	.559	-6.5461	11.2128
		siklus_ke5	-30.66667*	1.49071	.000	-38.0857	-23.2476
	siklus_ke2	siklus_ke6	-28.00000*	1.37437	.001	-35.5859	-20.4141
		siklus_ke1	-1.00000	1.24722	.945	-9.8795	7.8795
		siklus_ke3	.33333	.94281	.998	-5.7546	6.4212
		siklus_ke4	1.33333	.47140	.227	-.9021	3.5688
		siklus_ke5	-31.66667*	.94281	.001	-37.7546	-25.5788
	siklus_ke3	siklus_ke6	-29.00000*	.74536	.000	-33.2988	-24.7012
		siklus_ke1	-1.33333	1.49071	.928	-8.7524	6.0857
		siklus_ke2	-.33333	.94281	.998	-6.4212	5.7546
		siklus_ke4	1.00000	.94281	.869	-5.0879	7.0879
		siklus_ke5	-32.00000*	1.24722	.000	-37.9145	-26.0855
	siklus_ke4	siklus_ke6	-29.33333*	1.10554	.000	-34.7894	-23.8773
		siklus_ke1	-2.33333	1.24722	.559	-11.2128	6.5461
		siklus_ke2	-1.33333	.47140	.227	-3.5688	.9021
		siklus_ke3	-1.00000	.94281	.869	-7.0879	5.0879
		siklus_ke5	-33.00000*	.94281	.001	-39.0879	-26.9121
	siklus_ke5	siklus_ke6	-30.33333*	.74536	.000	-34.6321	-26.0346
		siklus_ke1	30.66667*	1.49071	.000	23.2476	38.0857
		siklus_ke2	31.66667*	.94281	.001	25.5788	37.7546
		siklus_ke3	32.00000*	1.24722	.000	26.0855	37.9145
		siklus_ke4	33.00000*	.94281	.001	26.9121	39.0879
	siklus_ke6	siklus_ke6	2.66667	1.10554	.335	-2.7894	8.1227
		siklus_ke1	28.00000*	1.37437	.001	20.4141	35.5859
		siklus_ke2	29.00000*	.74536	.000	23.7012	33.2988
		siklus_ke3	29.33333*	1.10554	.000	24.8773	34.7894
		siklus_ke4	30.33333*	.74536	.000	26.0346	34.6321
viskositas_F1 Tukey HSD	siklus_ke1	siklus_ke5	-2.66667	1.10554	.335	-8.1227	2.7894
		siklus_ke2	25.66667*	.98131	.000	22.3705	28.9628
		siklus_ke3	28.33333*	.98131	.000	25.0372	31.6295
		siklus_ke4	30.00000*	.98131	.000	26.7039	33.2961
		siklus_ke5	29.00000*	.98131	.000	25.7039	32.2961
	siklus_ke2	siklus_ke6	30.66667*	.98131	.000	27.3705	33.9628
		siklus_ke1	-25.66667*	.98131	.000	-28.9628	-22.3705
		siklus_ke3	2.66667	.98131	.142	-.6295	5.9628
		siklus_ke4	4.33333*	.98131	.008	1.0372	7.6295
		siklus_ke5	3.33333*	.98131	.047	.0372	6.6295
	siklus_ke3	siklus_ke6	5.00000*	.98131	.003	1.7039	8.2961
		siklus_ke1	-28.33333*	.98131	.000	-31.6295	-25.0372
		siklus_ke2	-2.66667	.98131	.142	-5.9628	.6295

Multiple Comparisons

			Mean Difference	Std.		95% Confidence Interval	
Dependent Variable	(I) Siklus_ke	(J) Siklus_ke	(I-J)	Error	Sig.	Lower Bound	Upper Bound
Games- Howell	siklus_ke4	siklus_ke4	1.66667	.98131	.557	-1.6295	4.9628
		siklus_ke5	.66667	.98131	.981	-2.6295	3.9628
		siklus_ke6	2.33333	.98131	.238	-.9628	5.6295
		siklus_ke1	-30.00000*	.98131	.000	-33.2961	-26.7039
		siklus_ke2	-4.33333*	.98131	.008	-7.6295	-1.0372
		siklus_ke3	-1.66667	.98131	.557	-4.9628	1.6295
	siklus_ke5	siklus_ke5	-1.00000	.98131	.903	-4.2961	2.2961
		siklus_ke6	.66667	.98131	.981	-2.6295	3.9628
		siklus_ke1	-29.00000*	.98131	.000	-32.2961	-25.7039
		siklus_ke2	-3.33333*	.98131	.047	-6.6295	-.0372
		siklus_ke3	-.66667	.98131	.981	-3.9628	2.6295
		siklus_ke4	1.00000	.98131	.903	-2.2961	4.2961
	siklus_ke6	siklus_ke6	1.66667	.98131	.557	-1.6295	4.9628
		siklus_ke1	-30.66667*	.98131	.000	-33.9628	-27.3705
		siklus_ke2	-5.00000*	.98131	.003	-8.2961	-1.7039
		siklus_ke3	-2.33333	.98131	.238	-5.6295	.9628
		siklus_ke4	-.66667	.98131	.981	-3.9628	2.6295
		siklus_ke5	-1.66667	.98131	.557	-4.9628	1.6295
	siklus_ke1	siklus_ke2	25.66667*	.74536	.000	21.3679	29.9654
		siklus_ke3	28.33333*	1.20185	.000	22.1616	34.5050
		siklus_ke4	30.00000*	.74536	.000	25.7012	34.2988
		siklus_ke5	29.00000*	1.10554	.000	23.5440	34.4560
		siklus_ke6	30.66667*	.94281	.000	26.1957	35.1376
		siklus_ke2	siklus_ke1	-25.66667*	.74536	.000	-29.9654
	siklus_ke3		2.66667	1.05409	.363	-4.4443	9.7776
	siklus_ke4		4.33333*	.47140	.005	2.0979	6.5688
	siklus_ke5		3.33333	.94281	.191	-2.7546	9.4212
	siklus_ke6		5.00000*	.74536	.033	.7012	9.2988
	siklus_ke3		siklus_ke1	-28.33333*	1.20185	.000	-34.5050
		siklus_ke2	-2.66667	1.05409	.363	-9.7776	4.4443
		siklus_ke4	1.66667	1.05409	.663	-5.4443	8.7776
		siklus_ke5	.66667	1.33333	.993	-5.7093	7.0426
		siklus_ke6	2.33333	1.20185	.499	-3.8384	8.5050
		siklus_ke4	siklus_ke1	-30.00000*	.74536	.000	-34.2988
	siklus_ke2		-4.33333*	.47140	.005	-6.5688	-2.0979
	siklus_ke3		-1.66667	1.05409	.663	-8.7776	5.4443
	siklus_ke5		-1.00000	.94281	.869	-7.0879	5.0879
	siklus_ke6		.66667	.74536	.925	-3.6321	4.9654
	siklus_ke5		siklus_ke1	-29.00000*	1.10554	.000	-34.4560
		siklus_ke2	-3.33333	.94281	.191	-9.4212	2.7546
		siklus_ke3	-.66667	1.33333	.993	-7.0426	5.7093
		siklus_ke4	1.00000	.94281	.869	-5.0879	7.0879
		siklus_ke6	1.66667	1.10554	.682	-3.7894	7.1227
		siklus_ke6	siklus_ke1	-30.66667*	.94281	.000	-35.1376
	siklus_ke2		-5.00000*	.74536	.033	-9.2988	-.7012
	siklus_ke3		-2.33333	1.20185	.499	-8.5050	3.8384
	siklus_ke4		-.66667	.74536	.925	-4.9654	3.6321
	siklus_ke5		-1.66667	1.10554	.682	-7.1227	3.7894
viskositas_F2 Tukey HSD	siklus_ke1		siklus_ke2	1.66667	1.23228	.752	-2.4725
		siklus_ke3	2.00000	1.23228	.600	-2.1391	6.1391
		siklus_ke4	3.00000	1.23228	.219	-1.1391	7.1391
		siklus_ke5	.66667	1.23228	.993	-3.4725	4.8058
		siklus_ke6	132.33333*	1.23228	.000	128.1942	136.4725
		siklus_ke2	siklus_ke1	-1.66667	1.23228	.752	-5.8058
	siklus_ke3		.33333	1.23228	1.000	-3.8058	4.4725
	siklus_ke4		1.33333	1.23228	.879	-2.8058	5.4725
	siklus_ke5		-1.00000	1.23228	.960	-5.1391	3.1391
	siklus_ke6	130.66667*	1.23228	.000	126.5275	134.8058	

Multiple Comparisons

Dependent Variable	(I) Siklus_ke	(J) Siklus_ke	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound Upper Bound	
	siklus_ke3	siklus_ke1	-2.00000	1.23228	.600	-6.1391	2.1391
		siklus_ke2	-.33333	1.23228	1.000	-4.4725	3.8058
		siklus_ke4	1.00000	1.23228	.960	-3.1391	5.1391
		siklus_ke5	-1.33333	1.23228	.879	-5.4725	2.8058
		siklus_ke6	130.33333*	1.23228	.000	126.1942	134.4725
	siklus_ke4	siklus_ke1	-3.00000	1.23228	.219	-7.1391	1.1391
		siklus_ke2	-1.33333	1.23228	.879	-5.4725	2.8058
		siklus_ke3	-1.00000	1.23228	.960	-5.1391	3.1391
		siklus_ke5	-2.33333	1.23228	.450	-6.4725	1.8058
		siklus_ke6	129.33333*	1.23228	.000	125.1942	133.4725
	siklus_ke5	siklus_ke1	-.66667	1.23228	.993	-4.8058	3.4725
		siklus_ke2	1.00000	1.23228	.960	-3.1391	5.1391
		siklus_ke3	1.33333	1.23228	.879	-2.8058	5.4725
		siklus_ke4	2.33333	1.23228	.450	-1.8058	6.4725
		siklus_ke6	131.66667*	1.23228	.000	127.5275	135.8058
	siklus_ke6	siklus_ke1	-132.33333*	1.23228	.000	-136.4725	-128.1942
		siklus_ke2	-130.66667*	1.23228	.000	-134.8058	-126.5275
		siklus_ke3	-130.33333*	1.23228	.000	-134.4725	-126.1942
		siklus_ke4	-129.33333*	1.23228	.000	-133.4725	-125.1942
		siklus_ke5	-131.66667*	1.23228	.000	-135.8058	-127.5275
Games- Howell	siklus_ke1	siklus_ke2	1.66667	1.24722	.760	-4.2479	7.5812
		siklus_ke3	2.00000	.94281	.466	-4.0879	8.0879
		siklus_ke4	3.00000	.94281	.236	-3.0879	9.0879
		siklus_ke5	.66667	1.49071	.996	-6.7524	8.0857
		siklus_ke6	132.33333*	1.45297	.000	125.1825	139.4842
	siklus_ke2	siklus_ke1	-1.66667	1.24722	.760	-7.5812	4.2479
		siklus_ke3	.33333	.94281	.998	-5.7546	6.4212
		siklus_ke4	1.33333	.94281	.730	-4.7546	7.4212
		siklus_ke5	-1.00000	1.49071	.976	-8.4191	6.4191
		siklus_ke6	130.66667*	1.45297	.000	123.5158	137.8175
	siklus_ke3	siklus_ke1	-2.00000	.94281	.466	-8.0879	4.0879
		siklus_ke2	-.33333	.94281	.998	-6.4212	5.7546
		siklus_ke4	1.00000	.47140	.420	-1.2355	3.2355
		siklus_ke5	-1.33333	1.24722	.865	-10.2128	7.5461
		siklus_ke6	130.33333*	1.20185	.000	121.8678	138.7989
	siklus_ke4	siklus_ke1	-3.00000	.94281	.236	-9.0879	3.0879
		siklus_ke2	-1.33333	.94281	.730	-7.4212	4.7546
		siklus_ke3	-1.00000	.47140	.420	-3.2355	1.2355
		siklus_ke5	-2.33333	1.24722	.559	-11.2128	6.5461
		siklus_ke6	129.33333*	1.20185	.000	120.8678	137.7989
	siklus_ke5	siklus_ke1	-.66667	1.49071	.996	-8.0857	6.7524
		siklus_ke2	1.00000	1.49071	.976	-6.4191	8.4191
		siklus_ke3	1.33333	1.24722	.865	-7.5461	10.2128
		siklus_ke4	2.33333	1.24722	.559	-6.5461	11.2128
		siklus_ke6	131.66667*	1.66667	.000	123.7563	139.5770
	siklus_ke6	siklus_ke1	-132.33333*	1.45297	.000	-139.4842	-125.1825
		siklus_ke2	-130.66667*	1.45297	.000	-137.8175	-123.5158
		siklus_ke3	-130.33333*	1.20185	.000	-138.7989	-121.8678
		siklus_ke4	-129.33333*	1.20185	.000	-137.7989	-120.8678
		siklus_ke5	-131.66667*	1.66667	.000	-139.5770	-123.7563
viskositas_F3 Tukey HSD	siklus_ke1	siklus_ke2	1.33333	1.37437	.919	-3.2831	5.9497
		siklus_ke3	2.00000	1.37437	.696	-2.6164	6.6164
		siklus_ke4	98.00000*	1.37437	.000	93.3836	102.6164
		siklus_ke5	121.00000*	1.37437	.000	116.3836	125.6164
		siklus_ke6	121.00000*	1.37437	.000	116.3836	125.6164
	siklus_ke2	siklus_ke1	-1.33333	1.37437	.919	-5.9497	3.2831
		siklus_ke3	.66667	1.37437	.996	-3.9497	5.2831
		siklus_ke4	96.66667*	1.37437	.000	92.0503	101.2831

Multiple Comparisons

Dependent Variable	(I) Siklus_ke	(J) Siklus_ke	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound Upper Bound	
Games- Howell	siklus_ke3	siklus_ke5	119.66667*	1.37437	.000	115.0503	124.2831
		siklus_ke6	119.66667*	1.37437	.000	115.0503	124.2831
		siklus_ke1	-2.00000	1.37437	.696	-6.6164	2.6164
		siklus_ke2	-.66667	1.37437	.996	-5.2831	3.9497
		siklus_ke4	96.00000*	1.37437	.000	91.3836	100.6164
		siklus_ke5	119.00000*	1.37437	.000	114.3836	123.6164
	siklus_ke4	siklus_ke6	119.00000*	1.37437	.000	114.3836	123.6164
		siklus_ke1	-98.00000*	1.37437	.000	-102.6164	-93.3836
		siklus_ke2	-96.66667*	1.37437	.000	-101.2831	-92.0503
		siklus_ke3	-96.00000*	1.37437	.000	-100.6164	-91.3836
		siklus_ke5	23.00000*	1.37437	.000	18.3836	27.6164
		siklus_ke6	23.00000*	1.37437	.000	18.3836	27.6164
	siklus_ke5	siklus_ke1	-121.00000*	1.37437	.000	-125.6164	-116.3836
		siklus_ke2	-119.66667*	1.37437	.000	-124.2831	-115.0503
		siklus_ke3	-119.00000*	1.37437	.000	-123.6164	-114.3836
		siklus_ke4	-23.00000*	1.37437	.000	-27.6164	-18.3836
		siklus_ke6	.00000	1.37437	1.000	-4.6164	4.6164
	siklus_ke6	siklus_ke1	-121.00000*	1.37437	.000	-125.6164	-116.3836
		siklus_ke2	-119.66667*	1.37437	.000	-124.2831	-115.0503
		siklus_ke3	-119.00000*	1.37437	.000	-123.6164	-114.3836
		siklus_ke4	-23.00000*	1.37437	.000	-27.6164	-18.3836
		siklus_ke5	.00000	1.37437	1.000	-4.6164	4.6164
	siklus_ke1	siklus_ke2	1.33333	1.24722	.872	-4.5812	7.2479
		siklus_ke3	2.00000	1.49071	.758	-5.4191	9.4191
		siklus_ke4	98.00000*	1.24722	.000	92.0855	103.9145
		siklus_ke5	121.00000*	1.10554	.000	115.5440	126.4560
		siklus_ke6	121.00000*	1.49071	.000	113.5809	128.4191
	siklus_ke2	siklus_ke1	-1.33333	1.24722	.872	-7.2479	4.5812
		siklus_ke3	.66667	1.49071	.996	-6.7524	8.0857
		siklus_ke4	96.66667*	1.24722	.000	90.7521	102.5812
		siklus_ke5	119.66667*	1.10554	.000	114.2106	125.1227
		siklus_ke6	119.66667*	1.49071	.000	112.2476	127.0857
	siklus_ke3	siklus_ke1	-2.00000	1.49071	.758	-9.4191	5.4191
		siklus_ke2	-.66667	1.49071	.996	-8.0857	6.7524
		siklus_ke4	96.00000*	1.49071	.000	88.5809	103.4191
		siklus_ke5	119.00000*	1.37437	.000	111.4141	126.5859
		siklus_ke6	119.00000*	1.69967	.000	110.9399	127.0601
	siklus_ke4	siklus_ke1	-98.00000*	1.24722	.000	-103.9145	-92.0855
		siklus_ke2	-96.66667*	1.24722	.000	-102.5812	-90.7521
		siklus_ke3	-96.00000*	1.49071	.000	-103.4191	-88.5809
		siklus_ke5	23.00000*	1.10554	.000	17.5440	28.4560
		siklus_ke6	23.00000*	1.49071	.001	15.5809	30.4191
	siklus_ke5	siklus_ke1	-121.00000*	1.10554	.000	-126.4560	-115.5440
		siklus_ke2	-119.66667*	1.10554	.000	-125.1227	-114.2106
		siklus_ke3	-119.00000*	1.37437	.000	-126.5859	-111.4141
		siklus_ke4	-23.00000*	1.10554	.000	-28.4560	-17.5440
		siklus_ke6	.00000	1.37437	1.000	-7.5859	7.5859
	siklus_ke6	siklus_ke1	-121.00000*	1.49071	.000	-128.4191	-113.5809
		siklus_ke2	-119.66667*	1.49071	.000	-127.0857	-112.2476
		siklus_ke3	-119.00000*	1.69967	.000	-127.0601	-110.9399
		siklus_ke4	-23.00000*	1.49071	.001	-30.4191	-15.5809
		siklus_ke5	.00000	1.37437	1.000	-7.5859	7.5859
viskositas_F4 Tukey HSD	siklus_ke1	siklus_ke2	-1.00000	1.24722	.962	-5.1893	3.1893
		siklus_ke3	.66667	1.24722	.993	-3.5226	4.8560
		siklus_ke4	77.00000*	1.24722	.000	72.8107	81.1893
		siklus_ke5	78.66667*	1.24722	.000	74.4774	82.8560
		siklus_ke6	87.00000*	1.24722	.000	82.8107	91.1893
	siklus_ke2	siklus_ke1	1.00000	1.24722	.962	-3.1893	5.1893

Multiple Comparisons

Dependent Variable	(I) Siklus_ke	(J) Siklus_ke	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval Lower Bound Upper Bound	
Games- Howell	siklus_ke3	siklus_ke3	1.66667	1.24722	.761	-2.5226	5.8560
		siklus_ke4	78.00000*	1.24722	.000	73.8107	82.1893
		siklus_ke5	79.66667*	1.24722	.000	75.4774	83.8560
		siklus_ke6	88.00000*	1.24722	.000	83.8107	92.1893
		siklus_ke1	-.66667	1.24722	.993	-4.8560	3.5226
		siklus_ke2	-1.66667	1.24722	.761	-5.8560	2.5226
	siklus_ke4	siklus_ke4	76.33333*	1.24722	.000	72.1440	80.5226
		siklus_ke5	78.00000*	1.24722	.000	73.8107	82.1893
		siklus_ke6	86.33333*	1.24722	.000	82.1440	90.5226
		siklus_ke1	-77.00000*	1.24722	.000	-81.1893	-72.8107
		siklus_ke2	-78.00000*	1.24722	.000	-82.1893	-73.8107
		siklus_ke3	-76.33333*	1.24722	.000	-80.5226	-72.1440
	siklus_ke5	siklus_ke5	1.66667	1.24722	.761	-2.5226	5.8560
		siklus_ke6	10.00000*	1.24722	.000	5.8107	14.1893
		siklus_ke1	-78.66667*	1.24722	.000	-82.8560	-74.4774
		siklus_ke2	-79.66667*	1.24722	.000	-83.8560	-75.4774
		siklus_ke3	-78.00000*	1.24722	.000	-82.1893	-73.8107
		siklus_ke4	-1.66667	1.24722	.761	-5.8560	2.5226
	siklus_ke6	siklus_ke6	8.33333*	1.24722	.000	4.1440	12.5226
		siklus_ke1	-87.00000*	1.24722	.000	-91.1893	-82.8107
		siklus_ke2	-88.00000*	1.24722	.000	-92.1893	-83.8107
		siklus_ke3	-86.33333*	1.24722	.000	-90.5226	-82.1440
		siklus_ke4	-10.00000*	1.24722	.000	-14.1893	-5.8107
		siklus_ke5	-8.33333*	1.24722	.000	-12.5226	-4.1440
Games- Howell	siklus_ke1	siklus_ke2	-1.00000	1.10554	.926	-6.4560	4.4560
		siklus_ke3	.66667	.94281	.966	-5.4212	6.7546
		siklus_ke4	77.00000*	1.10554	.000	71.5440	82.4560
		siklus_ke5	78.66667*	1.49071	.000	71.2476	86.0857
		siklus_ke6	87.00000*	1.49071	.000	79.5809	94.4191
	siklus_ke2	siklus_ke1	1.00000	1.10554	.926	-4.4560	6.4560
		siklus_ke3	1.66667	.74536	.415	-2.6321	5.9654
		siklus_ke4	78.00000*	.94281	.000	73.5290	82.4710
		siklus_ke5	79.66667*	1.37437	.000	72.0807	87.2526
		siklus_ke6	88.00000*	1.37437	.000	80.4141	95.5859
	siklus_ke3	siklus_ke1	-.66667	.94281	.966	-6.7546	5.4212
		siklus_ke2	-1.66667	.74536	.415	-5.9654	2.6321
		siklus_ke4	76.33333*	.74536	.000	72.0346	80.6321
		siklus_ke5	78.00000*	1.24722	.000	69.1205	86.8795
		siklus_ke6	86.33333*	1.24722	.000	77.4539	95.2128
	siklus_ke4	siklus_ke1	-77.00000*	1.10554	.000	-82.4560	-71.5440
		siklus_ke2	-78.00000*	.94281	.000	-82.4710	-73.5290
		siklus_ke3	-76.33333*	.74536	.000	-80.6321	-72.0346
		siklus_ke5	1.66667	1.37437	.813	-5.9193	9.2526
		siklus_ke6	10.00000*	1.37437	.023	2.4141	17.5859
	siklus_ke5	siklus_ke1	-78.66667*	1.49071	.000	-86.0857	-71.2476
		siklus_ke2	-79.66667*	1.37437	.000	-87.2526	-72.0807
		siklus_ke3	-78.00000*	1.24722	.000	-86.8795	-69.1205
		siklus_ke4	-1.66667	1.37437	.813	-9.2526	5.9193
		siklus_ke6	8.33333*	1.69967	.045	.2732	16.3935
	siklus_ke6	siklus_ke1	-87.00000*	1.49071	.000	-94.4191	-79.5809
		siklus_ke2	-88.00000*	1.37437	.000	-95.5859	-80.4141
		siklus_ke3	-86.33333*	1.24722	.000	-95.2128	-77.4539
		siklus_ke4	-10.00000*	1.37437	.023	-17.5859	-2.4141
		siklus_ke5	-8.33333*	1.69967	.045	-16.3935	-.2732

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

Lampiran 25. Hasil Analisis Statistik Daya sebar *freeze thaw*

- Uji Normalitas

		Tests of Normality					
		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Siklus ke	Statistic	df	Sig.	Statistic	df	Sig.
Dayasebar_F0	Siklus_ke1	.175	3	.	1.000	3	1.000
	Siklus_ke2	.385	3	.	.750	3	.000
	Siklus_ke3	.253	3	.	.964	3	.637
	Siklus_ke4	.175	3	.	1.000	3	1.000
	Siklus_ke5	.385	3	.	.750	3	.000
	Siklus_ke6	.385	3	.	.750	3	.000
Dayasebar_F1	Siklus_ke1	.385	3	.	.750	3	.000
	Siklus_ke2	.385	3	.	.750	3	.000
	Siklus_ke3	.292	3	.	.923	3	.463
	Siklus_ke4	.385	3	.	.750	3	.000
	Siklus_ke5	.175	3	.	1.000	3	1.000
	Siklus_ke6	.364	3	.	.800	3	.114
Dayasebar_F2	Siklus_ke1	.385	3	.	.750	3	.000
	Siklus_ke2	.175	3	.	1.000	3	1.000
	Siklus_ke3	.253	3	.	.964	3	.637
	Siklus_ke4	.175	3	.	1.000	3	1.000
	Siklus_ke5	.175	3	.	1.000	3	1.000
	Siklus_ke6	.253	3	.	.964	3	.637
Dayasebar_F3	Siklus_ke1	.253	3	.	.964	3	.637
	Siklus_ke2	.175	3	.	1.000	3	1.000
	Siklus_ke3	.175	3	.	1.000	3	1.000
	Siklus_ke4	.292	3	.	.923	3	.463
	Siklus_ke5	.385	3	.	.750	3	.000
	Siklus_ke6	.292	3	.	.923	3	.463
Dayasebar_F4	Siklus_ke1	.385	3	.	.750	3	.000
	Siklus_ke2	.385	3	.	.750	3	.000
	Siklus_ke3	.292	3	.	.923	3	.463
	Siklus_ke4	.253	3	.	.964	3	.637
	Siklus_ke5	.383	3	.	.755	3	.011
	Siklus_ke6	.175	3	.	1.000	3	1.000

- Uji Homogenitas
Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Dayasebar_F0	2.923	5	12	.059
Dayasebar_F1	9.665	5	12	.001
Dayasebar_F2	.684	5	12	.645
Dayasebar_F3	11.782	5	12	.000
Dayasebar_F4	15.677	5	12	.000

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Dayasebar_F0	Between Groups	.188	5	.038	150.369	.000
	Within Groups	.003	12	.000		
	Total	.191	17			
Dayasebar_F1	Between Groups	.308	5	.062	45.993	.000
	Within Groups	.016	12	.001		
	Total	.324	17			
Dayasebar_F2	Between Groups	.164	5	.033	184.681	.000
	Within Groups	.002	12	.000		
	Total	.166	17			
Dayasebar_F3	Between Groups	.212	5	.042	11.514	.000
	Within Groups	.044	12	.004		
	Total	.257	17			
Dayasebar_F4	Between Groups	2.961	5	.592	1.184	.373
	Within Groups	6.004	12	.500		
	Total	8.965	17			

- Uji *Kruskal wallis test*

Test Statistics^{a,b}

	Dayasebar_F0	Dayasebar_F1	Dayasebar_F2	Dayasebar_F3	Dayasebar_F4
Chi-Square	16.242	16.211	16.514	15.749	15.264
df	5	5	5	5	5
Asymp. Sig.	.006	.006	.006	.008	.009

- Uji Lanjutan *Post Hoc*

Multiple Comparisons

Multiple Comparisons						95% Confidence Interval	
Dependent Variable	(I) Siklus_ke	(J) Siklus_ke	Mean Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
Dayasebar_F0 Tukey HSD	Siklus_ke1	Siklus_ke2	-.02667	.01291	.364	-.0700	.0167
		Siklus_ke3	-.10333*	.01291	.000	-.1467	-.0600
		Siklus_ke4	-.12000*	.01291	.000	-.1634	-.0766
		Siklus_ke5	-.22333*	.01291	.000	-.2667	-.1800
		Siklus_ke6	-.29000*	.01291	.000	-.3334	-.2466
	Siklus_ke2	Siklus_ke1	.02667	.01291	.364	-.0167	.0700
		Siklus_ke3	-.07667*	.01291	.001	-.1200	-.0333
		Siklus_ke4	-.09333*	.01291	.000	-.1367	-.0500
		Siklus_ke5	-.19667*	.01291	.000	-.2400	-.1533
		Siklus_ke6	-.26333*	.01291	.000	-.3067	-.2200

Multiple Comparisons

Dependent Variable	(I) Siklus_ke	(J) Siklus_ke	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
	Siklus_ke3	Siklus_ke1	.10333*	.01291	.000	.0600	.1467
		Siklus_ke2	.07667*	.01291	.001	.0333	.1200
		Siklus_ke4	-.01667	.01291	.785	-.0600	.0267
		Siklus_ke5	-.12000*	.01291	.000	-.1634	-.0766
		Siklus_ke6	-.18667*	.01291	.000	-.2300	-.1433
	Siklus_ke4	Siklus_ke1	.12000*	.01291	.000	.0766	.1634
		Siklus_ke2	.09333*	.01291	.000	.0500	.1367
		Siklus_ke3	.01667	.01291	.785	-.0267	.0600
		Siklus_ke5	-.10333*	.01291	.000	-.1467	-.0600
		Siklus_ke6	-.17000*	.01291	.000	-.2134	-.1266
	Siklus_ke5	Siklus_ke1	.22333*	.01291	.000	.1800	.2667
		Siklus_ke2	.19667*	.01291	.000	.1533	.2400
		Siklus_ke3	.12000*	.01291	.000	.0766	.1634
		Siklus_ke4	.10333*	.01291	.000	.0600	.1467
		Siklus_ke6	-.06667*	.01291	.002	-.1100	-.0233
	Siklus_ke6	Siklus_ke1	.29000*	.01291	.000	.2466	.3334
		Siklus_ke2	.26333*	.01291	.000	.2200	.3067
		Siklus_ke3	.18667*	.01291	.000	.1433	.2300
		Siklus_ke4	.17000*	.01291	.000	.1266	.2134
		Siklus_ke5	.06667*	.01291	.002	.0233	.1100
	Games- Howell Siklus_ke1	Siklus_ke2	-.02667	.00667	.114	-.0629	.0095
		Siklus_ke3	-.10333	.01856	.078	-.2293	.0226
		Siklus_ke4	-.12000*	.00816	.001	-.1587	-.0813
		Siklus_ke5	-.22333*	.00667	.000	-.2595	-.1871
		Siklus_ke6	-.29000*	.01155	.000	-.3527	-.2273
	Siklus_ke2	Siklus_ke1	.02667	.00667	.114	-.0095	.0629
		Siklus_ke3	-.07667	.01795	.159	-.2145	.0612
		Siklus_ke4	-.09333*	.00667	.003	-.1295	-.0571
		Siklus_ke5	-.19667*	.00471	.000	-.2190	-.1743
		Siklus_ke6	-.26333*	.01054	.002	-.3344	-.1922
	Siklus_ke3	Siklus_ke1	.10333	.01856	.078	-.0226	.2293
		Siklus_ke2	.07667	.01795	.159	-.0612	.2145
		Siklus_ke4	-.01667	.01856	.921	-.1426	.1093
		Siklus_ke5	-.12000	.01795	.066	-.2579	.0179
		Siklus_ke6	-.18667*	.02028	.011	-.2976	-.0758
	Siklus_ke4	Siklus_ke1	.12000*	.00816	.001	.0813	.1587
		Siklus_ke2	.09333*	.00667	.003	.0571	.1295
		Siklus_ke3	.01667	.01856	.921	-.1093	.1426
		Siklus_ke5	-.10333*	.00667	.002	-.1395	-.0671
		Siklus_ke6	-.17000*	.01155	.002	-.2327	-.1073
	Siklus_ke5	Siklus_ke1	.22333*	.00667	.000	.1871	.2595
		Siklus_ke2	.19667*	.00471	.000	.1743	.2190
		Siklus_ke3	.12000	.01795	.066	-.0179	.2579
		Siklus_ke4	.10333*	.00667	.002	.0671	.1395
		Siklus_ke6	-.06667	.01054	.058	-.1378	.0044
	Siklus_ke6	Siklus_ke1	.29000*	.01155	.000	.2273	.3527
		Siklus_ke2	.26333*	.01054	.002	.1922	.3344
		Siklus_ke3	.18667*	.02028	.011	.0758	.2976
		Siklus_ke4	.17000*	.01155	.002	.1073	.2327
		Siklus_ke5	.06667	.01054	.058	-.0044	.1378
Dayasebar_F1	Tukey HSD Siklus_ke1	Siklus_ke2	-.03333	.02988	.866	-.1337	.0670
		Siklus_ke3	-.08667	.02988	.106	-.1870	.0137
		Siklus_ke4	-.08667	.02988	.106	-.1870	.0137
		Siklus_ke5	-.24000*	.02988	.000	-.3404	-.1396
		Siklus_ke6	-.37667*	.02988	.000	-.4770	-.2763
	Siklus_ke2	Siklus_ke1	.03333	.02988	.866	-.0670	.1337
		Siklus_ke3	-.05333	.02988	.508	-.1537	.0470
		Siklus_ke4	-.05333	.02988	.508	-.1537	.0470

Multiple Comparisons

						95% Confidence Interval		
	(I)	(J)	Mean Difference	Std.		Lower	Upper	
Dependent Variable	Siklus_ke	Siklus_ke	(I-J)	Error	Sig.	Bound	Bound	
		Siklus_ke5	-.20667*	.02988	.000	-.3070	-.1063	
		Siklus_ke6	-.34333*	.02988	.000	-.4437	-.2430	
		Siklus_ke3	Siklus_ke1	.08667	.02988	.106	-.0137	.1870
			Siklus_ke2	.05333	.02988	.508	-.0470	.1537
			Siklus_ke4	.00000	.02988	1.000	-.1004	.1004
			Siklus_ke5	-.15333*	.02988	.003	-.2537	-.0530
	Siklus_ke4	Siklus_ke6	-.29000*	.02988	.000	-.3904	-.1896	
		Siklus_ke1	.08667	.02988	.106	-.0137	.1870	
		Siklus_ke2	.05333	.02988	.508	-.0470	.1537	
		Siklus_ke3	.00000	.02988	1.000	-.1004	.1004	
		Siklus_ke5	-.15333*	.02988	.003	-.2537	-.0530	
		Siklus_ke6	-.29000*	.02988	.000	-.3904	-.1896	
	Siklus_ke5	Siklus_ke1	.24000*	.02988	.000	.1396	.3404	
		Siklus_ke2	.20667*	.02988	.000	.1063	.3070	
		Siklus_ke3	.15333*	.02988	.003	.0530	.2537	
		Siklus_ke4	.15333*	.02988	.003	.0530	.2537	
		Siklus_ke6	-.13667*	.02988	.006	-.2370	-.0363	
		Siklus_ke6	Siklus_ke1	.37667*	.02988	.000	.2763	.4770
	Siklus_ke2		.34333*	.02988	.000	.2430	.4437	
	Siklus_ke3		.29000*	.02988	.000	.1896	.3904	
	Siklus_ke4		.29000*	.02988	.000	.1896	.3904	
	Siklus_ke5		.13667*	.02988	.006	.0363	.2370	
	Games-Howell		Siklus_ke1	Siklus_ke2	-.03333	.01054	.247	-.1044
		Siklus_ke3		-.08667*	.01563	.032	-.1621	-.0112
Siklus_ke4		-.08667*		.01202	.017	-.1484	-.0249	
Siklus_ke5		-.24000*		.01155	.001	-.3027	-.1773	
Siklus_ke6		-.37667*		.04944	.049	-.7512	-.0021	
Siklus_ke2		Siklus_ke1		.03333	.01054	.247	-.0378	.1044
		Siklus_ke3	-.05333	.01247	.146	-.1421	.0355	
		Siklus_ke4	-.05333*	.00745	.028	-.0963	-.0103	
		Siklus_ke5	-.20667*	.00667	.000	-.2429	-.1705	
		Siklus_ke6	-.34333	.04853	.067	-.7417	.0550	
		Siklus_ke3	Siklus_ke1	.08667*	.01563	.032	.0112	.1621
Siklus_ke2			.05333	.01247	.146	-.0355	.1421	
Siklus_ke4			.00000	.01374	1.000	-.0759	.0759	
Siklus_ke5			-.15333*	.01333	.008	-.2315	-.0751	
Siklus_ke6			-.29000	.04989	.081	-.6548	.0748	
Siklus_ke4			Siklus_ke1	.08667*	.01202	.017	.0249	.1484
		Siklus_ke2	.05333*	.00745	.028	.0103	.0963	
		Siklus_ke3	.00000	.01374	1.000	-.0759	.0759	
	Siklus_ke5	-.15333*	.00882	.000	-.1956	-.1111		
	Siklus_ke6	-.29000	.04888	.089	-.6787	.0987		
	Siklus_ke5	Siklus_ke1	.24000*	.01155	.001	.1773	.3027	
Siklus_ke2		.20667*	.00667	.000	.1705	.2429		
Siklus_ke3		.15333*	.01333	.008	.0751	.2315		
Siklus_ke4		.15333*	.00882	.000	.1111	.1956		
Siklus_ke6		-.13667	.04876	.335	-.5285	.2551		
Siklus_ke6		Siklus_ke1	.37667*	.04944	.049	.0021	.7512	
	Siklus_ke2	.34333	.04853	.067	-.0550	.7417		
	Siklus_ke3	.29000	.04989	.081	-.0748	.6548		
	Siklus_ke4	.29000	.04888	.089	-.0987	.6787		
	Siklus_ke5	.13667	.04876	.335	-.2551	.5285		
	Dayasebar_F2	Tukey HSD	Siklus_ke1	Siklus_ke2	-.06000*	.01089	.001	-.0966
Siklus_ke3				-.08667*	.01089	.000	-.1232	-.0501
Siklus_ke4				-.14000*	.01089	.000	-.1766	-.1034
Siklus_ke5				-.21000*	.01089	.000	-.2466	-.1734
Siklus_ke6				-.28667*	.01089	.000	-.3232	-.2501
Siklus_ke2			Siklus_ke1	.06000*	.01089	.001	.0234	.0966

Multiple Comparisons

Multiple Comparisons						95% Confidence Interval		
Dependent Variable	(I) Siklus_ke	(J) Siklus_ke	Mean Difference (I-J)	Std. Error	Sig.	Interval		
						Lower Bound	Upper Bound	
		Siklus_ke3	-.02667	.01089	.214	-.0632	.0099	
		Siklus_ke4	-.08000*	.01089	.000	-.1166	-.0434	
		Siklus_ke5	-.15000*	.01089	.000	-.1866	-.1134	
		Siklus_ke6	-.22667*	.01089	.000	-.2632	-.1901	
		Siklus_ke3	Siklus_ke1	.08667*	.01089	.000	.0501	.1232
		Siklus_ke2	.02667	.01089	.214	-.0099	.0632	
		Siklus_ke4	-.05333*	.01089	.004	-.0899	-.0168	
		Siklus_ke5	-.12333*	.01089	.000	-.1599	-.0868	
		Siklus_ke6	-.20000*	.01089	.000	-.2366	-.1634	
		Siklus_ke4	Siklus_ke1	.14000*	.01089	.000	.1034	.1766
		Siklus_ke2	.08000*	.01089	.000	.0434	.1166	
		Siklus_ke3	.05333*	.01089	.004	.0168	.0899	
		Siklus_ke5	-.07000*	.01089	.000	-.1066	-.0334	
		Siklus_ke6	-.14667*	.01089	.000	-.1832	-.1101	
		Siklus_ke1	.21000*	.01089	.000	.1734	.2466	
		Siklus_ke2	.15000*	.01089	.000	.1134	.1866	
		Siklus_ke3	.12333*	.01089	.000	.0868	.1599	
		Siklus_ke4	.07000*	.01089	.000	.0334	.1066	
		Siklus_ke6	-.07667*	.01089	.000	-.1132	-.0401	
		Siklus_ke1	.28667*	.01089	.000	.2501	.3232	
			Siklus_ke2	.22667*	.01089	.000	.1901	.2632
			Siklus_ke3	.20000*	.01089	.000	.1634	.2366
			Siklus_ke4	.14667*	.01089	.000	.1101	.1832
			Siklus_ke5	.07667*	.01089	.000	.0401	.1132
Games-Howell	Siklus_ke1		Siklus_ke2	-.06000	.01155	.057	-.1227	.0027
			Siklus_ke3	-.08667*	.01333	.017	-.1504	-.0229
			Siklus_ke4	-.14000*	.01155	.004	-.2027	-.0773
			Siklus_ke5	-.21000*	.01155	.001	-.2727	-.1473
			Siklus_ke6	-.28667*	.01333	.000	-.3504	-.2229
			Siklus_ke2	Siklus_ke1	.06000	.01155	.057	-.0027
			Siklus_ke3	-.02667	.01054	.314	-.0812	.0278
			Siklus_ke4	-.08000*	.00816	.004	-.1187	-.0413
		Siklus_ke5	-.15000*	.00816	.000	-.1887	-.1113	
		Siklus_ke6	-.22667*	.01054	.000	-.2812	-.1722	
		Siklus_ke3	Siklus_ke1	.08667*	.01333	.017	.0229	.1504
		Siklus_ke2	.02667	.01054	.314	-.0278	.0812	
		Siklus_ke4	-.05333	.01054	.053	-.1078	.0012	
		Siklus_ke5	-.12333*	.01054	.004	-.1778	-.0688	
		Siklus_ke6	-.20000*	.01247	.001	-.2591	-.1409	
		Siklus_ke4	Siklus_ke1	.14000*	.01155	.004	.0773	.2027
		Siklus_ke2	.08000*	.00816	.004	.0413	.1187	
		Siklus_ke3	.05333	.01054	.053	-.0012	.1078	
		Siklus_ke5	-.07000*	.00816	.006	-.1087	-.0313	
		Siklus_ke6	-.14667*	.01054	.002	-.2012	-.0922	
		Siklus_ke1	.21000*	.01155	.001	.1473	.2727	
		Siklus_ke2	.15000*	.00816	.000	.1113	.1887	
		Siklus_ke3	.12333*	.01054	.004	.0688	.1778	
		Siklus_ke4	.07000*	.00816	.006	.0313	.1087	
Siklus_ke6		-.07667*	.01054	.017	-.1312	-.0222		
Siklus_ke1		.28667*	.01333	.000	.2229	.3504		
Siklus_ke2		.22667*	.01054	.000	.1722	.2812		
Siklus_ke3		.20000*	.01247	.001	.1409	.2591		
Siklus_ke4		.14667*	.01054	.002	.0922	.2012		
Siklus_ke5		.07667*	.01054	.017	.0222	.1312		
Dayasebar_F3	Tukey HSD	Siklus_ke1	Siklus_ke2	-.03333	.04959	.982	-.1999	.1332
			Siklus_ke3	-.03333	.04959	.982	-.1999	.1332
			Siklus_ke4	-.08667	.04959	.529	-.2532	.0799
			Siklus_ke5	-.31000*	.04959	.000	-.4766	-.1434

Multiple Comparisons

Multiple Comparisons						95% Confidence Interval		
Dependent Variable	(I) Siklus_ke	(J) Siklus_ke	Mean Difference (I-J)	Std. Error	Sig.	Lower Bound	Upper Bound	
	Siklus_ke2	Siklus_ke6	-.19000*	.04959	.023	-.3566	-.0234	
		Siklus_ke1	.03333	.04959	.982	-.1332	.1999	
		Siklus_ke3	.00000	.04959	1.000	-.1666	.1666	
		Siklus_ke4	-.05333	.04959	.882	-.2199	.1132	
		Siklus_ke5	-.27667*	.04959	.001	-.4432	-.1101	
		Siklus_ke6	-.15667	.04959	.070	-.3232	.0099	
	Siklus_ke3	Siklus_ke1	.03333	.04959	.982	-.1332	.1999	
		Siklus_ke2	.00000	.04959	1.000	-.1666	.1666	
		Siklus_ke4	-.05333	.04959	.882	-.2199	.1132	
		Siklus_ke5	-.27667*	.04959	.001	-.4432	-.1101	
	Siklus_ke4	Siklus_ke6	-.15667	.04959	.070	-.3232	.0099	
		Siklus_ke1	.08667	.04959	.529	-.0799	.2532	
		Siklus_ke2	.05333	.04959	.882	-.1132	.2199	
		Siklus_ke3	.05333	.04959	.882	-.1132	.2199	
	Siklus_ke5	Siklus_ke6	-.22333*	.04959	.007	-.3899	-.0568	
		Siklus_ke1	-.10333	.04959	.356	-.2699	.0632	
		Siklus_ke2	.31000*	.04959	.000	.1434	.4766	
		Siklus_ke3	.27667*	.04959	.001	.1101	.4432	
	Siklus_ke6	Siklus_ke4	.22333*	.04959	.007	.0568	.3899	
		Siklus_ke5	.12000	.04959	.223	-.0466	.2866	
		Siklus_ke1	.19000*	.04959	.023	.0234	.3566	
		Siklus_ke2	.15667	.04959	.070	-.0099	.3232	
	Games-Howell	Siklus_ke1	Siklus_ke3	.15667	.04959	.070	-.0099	.3232
			Siklus_ke4	.10333	.04959	.356	-.0632	.2699
Siklus_ke5			.12000	.04959	.223	-.0466	.2866	
Siklus_ke6			-.12000	.04959	.223	-.2866	.0466	
Siklus_ke2			-.03333	.01054	.191	-.0878	.0212	
Siklus_ke3			-.03333	.01054	.191	-.0878	.0212	
Siklus_ke2		Siklus_ke4	-.08667*	.01491	.030	-.1609	-.0125	
		Siklus_ke5	-.31000	.08380	.215	-.9878	.3678	
		Siklus_ke6	-.19000*	.01491	.002	-.2642	-.1158	
		Siklus_ke1	.03333	.01054	.191	-.0212	.0878	
		Siklus_ke3	.00000	.00816	1.000	-.0387	.0387	
		Siklus_ke4	-.05333	.01333	.130	-.1315	.0249	
Siklus_ke3		Siklus_ke5	-.27667	.08353	.261	-.9621	.4088	
		Siklus_ke6	-.15667*	.01333	.008	-.2349	-.0785	
		Siklus_ke1	.03333	.01054	.191	-.0212	.0878	
		Siklus_ke2	.00000	.00816	1.000	-.0387	.0387	
		Siklus_ke4	-.05333	.01333	.130	-.1315	.0249	
		Siklus_ke5	-.27667	.08353	.261	-.9621	.4088	
Siklus_ke4		Siklus_ke6	-.15667*	.01333	.008	-.2349	-.0785	
		Siklus_ke1	.08667*	.01491	.030	.0125	.1609	
		Siklus_ke2	.05333	.01333	.130	-.0249	.1315	
		Siklus_ke3	.05333	.01333	.130	-.0249	.1315	
		Siklus_ke5	-.22333	.08420	.361	-.8903	.4436	
		Siklus_ke6	-.10333*	.01700	.021	-.1839	-.0227	
Siklus_ke5		Siklus_ke1	.31000	.08380	.215	-.3678	.9878	
		Siklus_ke2	.27667	.08353	.261	-.4088	.9621	
		Siklus_ke3	.27667	.08353	.261	-.4088	.9621	
		Siklus_ke4	.22333	.08420	.361	-.4436	.8903	
		Siklus_ke6	.12000	.08420	.730	-.5469	.7869	
		Siklus_ke1	.19000*	.01491	.002	.1158	.2642	
Siklus_ke6		Siklus_ke2	.15667*	.01333	.008	.0785	.2349	
		Siklus_ke3	.15667*	.01333	.008	.0785	.2349	
		Siklus_ke4	.10333*	.01700	.021	.0227	.1839	
		Siklus_ke5	-.12000	.08420	.730	-.7869	.5469	
		Siklus_ke1	-.06667	.57753	1.000	-2.0165	1.8632	
	Siklus_ke3	-.06667	.57753	1.000	-2.0065	1.8732		

Multiple Comparisons

Dependent Variable	(I) Siklus_ke	(J) Siklus_ke	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
		Siklus_ke4	-.16000	.57753	1.000	-2.0999	1.7799
		Siklus_ke5	-1.17333	.57753	.380	-3.1132	.7665
		Siklus_ke6	-.18333	.57753	.999	-2.1232	1.7565
		Siklus_ke2	.07667	.57753	1.000	-1.8632	2.0165
		Siklus_ke3	.01000	.57753	1.000	-1.9299	1.9499
		Siklus_ke4	-.08333	.57753	1.000	-2.0232	1.8565
		Siklus_ke5	-1.09667	.57753	.447	-3.0365	.8432
		Siklus_ke6	-.10667	.57753	1.000	-2.0465	1.8332
		Siklus_ke1	.06667	.57753	1.000	-1.8732	2.0065
		Siklus_ke2	-.01000	.57753	1.000	-1.9499	1.9299
		Siklus_ke4	-.09333	.57753	1.000	-2.0332	1.8465
		Siklus_ke5	-1.10667	.57753	.438	-3.0465	.8332
		Siklus_ke6	-.11667	.57753	1.000	-2.0565	1.8232
		Siklus_ke1	.16000	.57753	1.000	-1.7799	2.0999
		Siklus_ke2	.08333	.57753	1.000	-1.8565	2.0232
		Siklus_ke3	.09333	.57753	1.000	-1.8465	2.0332
		Siklus_ke5	-1.01333	.57753	.525	-2.9532	.9265
		Siklus_ke6	-.02333	.57753	1.000	-1.9632	1.9165
		Siklus_ke1	1.17333	.57753	.380	-.7665	3.1132
		Siklus_ke2	1.09667	.57753	.447	-.8432	3.0365
		Siklus_ke3	1.10667	.57753	.438	-.8332	3.0465
		Siklus_ke4	1.01333	.57753	.525	-.9265	2.9532
		Siklus_ke6	.99000	.57753	.548	-.9499	2.9299
		Siklus_ke1	.18333	.57753	.999	-1.7565	2.1232
		Siklus_ke2	.10667	.57753	1.000	-1.8332	2.0465
Games- Howell		Siklus_ke3	.11667	.57753	1.000	-1.8232	2.0565
		Siklus_ke4	.02333	.57753	1.000	-1.9165	1.9632
		Siklus_ke5	-.99000	.57753	.548	-2.9299	.9499
		Siklus_ke1	-.07667	.01795	.125	-.1901	.0368
		Siklus_ke3	-.06667	.01374	.071	-.1425	.0092
		Siklus_ke4	-.16000*	.01106	.001	-.2146	-.1054
		Siklus_ke5	-1.17333	1.00004	.826	-9.4702	7.1235
		Siklus_ke6	-.18333*	.00882	.000	-.2256	-.1411
		Siklus_ke1	.07667	.01795	.125	-.0368	.1901
		Siklus_ke3	.01000	.02055	.994	-.0928	.1128
		Siklus_ke4	-.08333	.01886	.095	-.1895	.0228
		Siklus_ke5	-1.09667	1.00016	.854	-9.3900	7.1967
		Siklus_ke6	-.10667	.01764	.062	-.2241	.0108
		Siklus_ke1	.06667	.01374	.071	-.0092	.1425
		Siklus_ke2	-.01000	.02055	.994	-.1128	.0928
		Siklus_ke4	-.09333*	.01491	.024	-.1675	-.0191
		Siklus_ke5	-1.10667	1.00009	.850	-9.4020	7.1887
		Siklus_ke6	-.11667*	.01333	.017	-.1949	-.0385
		Siklus_ke1	.16000*	.01106	.001	.1054	.2146
		Siklus_ke2	.08333	.01886	.095	-.0228	.1895
		Siklus_ke3	.09333*	.01491	.024	.0191	.1675
		Siklus_ke5	-1.01333	1.00006	.882	-9.3097	7.2830
		Siklus_ke6	-.02333	.01054	.404	-.0778	.0312
		Siklus_ke1	1.17333	1.00004	.826	-7.1235	9.4702
		Siklus_ke2	1.09667	1.00016	.854	-7.1967	9.3900
		Siklus_ke3	1.10667	1.00009	.850	-7.1887	9.4020
		Siklus_ke4	1.01333	1.00006	.882	-7.2830	9.3097
		Siklus_ke6	.99000	1.00003	.890	-7.3070	9.2870
		Siklus_ke1	.18333*	.00882	.000	.1411	.2256
		Siklus_ke2	.10667	.01764	.062	-.0108	.2241
		Siklus_ke3	.11667*	.01333	.017	.0385	.1949
		Siklus_ke4	.02333	.01054	.404	-.0312	.0778
		Siklus_ke5	-.99000	1.00003	.890	-9.2870	7.3070

Multiple Comparisons

Dependent Variable	(I) Siklus_ke	(J) Siklus_ke	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound

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

Lampiran 26. Hasil Analisis statistik Uji Aktivitas SPF

- Uji Normalitas

Tests of Normality ^b							
	no	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	df	Sig.	Statistic	df	Sig.
nilai_spf	pembanding	.385	3	.	.750	3	.000
	F0	.292	3	.	.923	3	.463
	F1	.175	3	.	1.000	3	1.000
	F2	.385	3	.	.750	3	.000
	F4	.385	3	.	.750	3	.000

- Uji Homogenitas

Test of Homogeneity of Variances

nilai_spf			
Levene Statistic	df1	df2	Sig.
3.810	5	12	.027

ANOVA

nilai_spf					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1990.170	5	398.034	2388203.873	.000
Within Groups	.002	12	.000		
Total	1990.172	17			

- Uji *Kruskal – wallis test*

Test Statistics^{a,b}

nilai_spf	
Chi-Square	10.458
df	3
Asymp. Sig.	.015

- Uji lanjutan *Post - Hoc*

Multiple Comparisons

Dependent Variable: nilai_spf

			Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
	(I) no	(J) no	J)				
Tukey HSD	pembanding	F0	30.84667*	.01054	.000	30.8113	30.8821
		F1	24.85333*	.01054	.000	24.8179	24.8887
		F2	22.51333*	.01054	.000	22.4779	22.5487
		F3	17.81333*	.01054	.000	17.7779	17.8487
		F4	7.49667*	.01054	.000	7.4613	7.5321
	F0	pembanding	-30.84667*	.01054	.000	-30.8821	-30.8113
		F1	-5.99333*	.01054	.000	-6.0287	-5.9579
		F2	-8.33333*	.01054	.000	-8.3687	-8.2979
		F3	-13.03333*	.01054	.000	-13.0687	-12.9979
		F4	-23.35000*	.01054	.000	-23.3854	-23.3146
	F1	pembanding	-24.85333*	.01054	.000	-24.8887	-24.8179
		F0	5.99333*	.01054	.000	5.9579	6.0287
		F2	-2.34000*	.01054	.000	-2.3754	-2.3046
		F3	-7.04000*	.01054	.000	-7.0754	-7.0046
		F4	-17.35667*	.01054	.000	-17.3921	-17.3213
	F2	pembanding	-22.51333*	.01054	.000	-22.5487	-22.4779
		F0	8.33333*	.01054	.000	8.2979	8.3687
		F1	2.34000*	.01054	.000	2.3046	2.3754
		F3	-4.70000*	.01054	.000	-4.7354	-4.6646
		F4	-15.01667*	.01054	.000	-15.0521	-14.9813
	F3	pembanding	-17.81333*	.01054	.000	-17.8487	-17.7779
		F0	13.03333*	.01054	.000	12.9979	13.0687
		F1	7.04000*	.01054	.000	7.0046	7.0754
		F2	4.70000*	.01054	.000	4.6646	4.7354
		F4	-10.31667*	.01054	.000	-10.3521	-10.2813
	F4	pembanding	-7.49667*	.01054	.000	-7.5321	-7.4613
		F0	23.35000*	.01054	.000	23.3146	23.3854
		F1	17.35667*	.01054	.000	17.3213	17.3921
		F2	15.01667*	.01054	.000	14.9813	15.0521

Multiple Comparisons

Dependent Variable: nilai_spf

		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
(I) no	(J) no				Lower Bound	Upper Bound
Games-Howell	F3	10.31667*	.01054	.000	10.2813	10.3521
	pembanding F0	30.84667*	.01247	.000	30.7579	30.9355
	F1	24.85333*	.00667	.000	24.8171	24.8895
	F2	22.51333*	.01054	.000	22.4422	22.5844
	F3	17.81333*	.00333	.000	17.7857	17.8410
	F4	7.49667*	.00745	.000	7.4537	7.5397
	F0 pembanding	-30.84667*	.01247	.000	-30.9355	-30.7579
	F1	-5.99333*	.01333	.000	-6.0715	-5.9151
	F2	-8.33333*	.01563	.000	-8.4088	-8.2579
	F3	-13.03333*	.01202	.000	-13.1331	-12.9336
	F4	-23.35000*	.01374	.000	-23.4259	-23.2741
	F1 pembanding	-24.85333*	.00667	.000	-24.8895	-24.8171
	F0	5.99333*	.01333	.000	5.9151	6.0715
	F2	-2.34000*	.01155	.000	-2.4027	-2.2773
	F3	-7.04000*	.00577	.000	-7.0879	-6.9921
	F4	-17.35667*	.00882	.000	-17.3989	-17.3144
	F2 pembanding	-22.51333*	.01054	.000	-22.5844	-22.4422
	F0	8.33333*	.01563	.000	8.2579	8.4088
	F1	2.34000*	.01155	.000	2.2773	2.4027
	F3	-4.70000*	.01000	.000	-4.7830	-4.6170
	F4	-15.01667*	.01202	.000	-15.0784	-14.9549
	F3 pembanding	-17.81333*	.00333	.000	-17.8410	-17.7857
	F0	13.03333*	.01202	.000	12.9336	13.1331
	F1	7.04000*	.00577	.000	6.9921	7.0879
	F2	4.70000*	.01000	.000	4.6170	4.7830
	F4	-10.31667*	.00667	.000	-10.3720	-10.2614
	F4 pembanding	-7.49667*	.00745	.000	-7.5397	-7.4537
	F0	23.35000*	.01374	.000	23.2741	23.4259
	F1	17.35667*	.00882	.000	17.3144	17.3989
	F2	15.01667*	.01202	.000	14.9549	15.0784
	F3	10.31667*	.00667	.000	10.2614	10.3720

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

Lampiran 27. Dokumentasi Evaluasi Sediaan



Lampiran 28. Sertifikat Analisis As. Stearat



wilmar
FINMA-QC-0101
REV 12 26/01/2019

Quality Control Department



KAN
Kantor Analisis Negeri
Kuala Lumpur
47000

Date: 31 March 2023

CERTIFICATE OF ANALYSIS

Ref No: FA/GC/05K/23/06.294
 Customer: UNICHEM BGS
 Product: STEARIC ACID 98%
 Manufactured Date: MARCH 12, 2023
 Best Before: MARCH 12, 2024
 Date of Sample Received: MARCH 12, 2023
 Date of Analysis: MARCH 12, 2023
 Lot No: B230312-274

Parameter	Unit	Result	Specification	Test Method
Appearance *	-	Beads	Beads	LT/0314-FIN-QC-20-017
Acid value	mg KOH/g	218	206 - 214	AOCS Te 1a - 64, 2017
Saponification Value	mg KOH/g	211	207 - 215	AOCS Ti 1a - 64, 2017
Iodine Value	% I2 absorbed	0.1	1 max	AOCS Tg 1a - 64, 2017
Color 512* Lx	R	0.1	0.5 max	AOCS Cc 13a-62, 2017
Color 312* Lx	Y	0.7	2 max	AOCS Cc 13a-62, 2017
Free	°C	65.4	64 - 67	AOCS Tr 1a - 64, 2017
Carbon chain distribution	%			
- C12		ND	1 max	
- C14		0.3	2 max	AOCS Ce 1a - 31, 1999
- C16		58.6	56 - 63	AOCS Ce 2 - 55, 2017
- C18		40.4	37 - 42	
- Others		0.7	1 max	

Remark:
*) not accredited parameter

Certified Correct



Piko A. Ardi
QC Head Control Lab

The result of these test relate only to the sample(s) submitted. The publication and duplicating of our test reports and expert opinions for advertising purpose as well as their use for any other purposes in extracts requires our written approval.

Page 1 of 1

Lampiran 29. Sertifikat Analisis Carbomer

COREL PHARMA CHEM


THOL ROAD, KADI - 382715, DIST. MEHSANA, GUJARAT(INDIA)
 PHONE : + 91 8000880044/55 E-MAIL: corel@corelpharmachem.com WEB SITE: www.corelpharmachem.com

CERTIFICATE OF ANALYSIS

NAME OF PRODUCT: **ACRYPOL 940**
 (Carbomer - 940)

BATCH NO: 11022078 DATE: 12/01/2023

MFG. DATE: JAN.-2023 A.R. NO.: CRL/FP/078/22-23

RETEST DATE: DEC.-2025

The supply as detailed above has been tested and found to meet the requirement as below on sample basis.

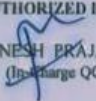
TEST	SPECIFICATION*	RESULTS
DESCRIPTION	White, fluffy, hygroscopic powder having a slight, characteristic odor. The pH of 1 in 100 dispersion in water is about 3.	White fluffy, hygroscopic powder having a slight, characteristic odor. The pH of 1 in 100 dispersion in water is about 3.
SOLUBILITY	When neutralize with alkali hydroxide or amine it dissolve in water, alcohol and glycerin	Complies
IDENTIFICATION A	Spectroscopic Identification Test	Complies
IDENTIFICATION B	1) 10 mg/ml dispersion with Thymol Blue - Orange Color	Orange color produced
	2) 10 mg/ml dispersion with cresol Red - Yellow Color	Yellow color produced
IDENTIFICATION C	Very viscous gel is produced	Very viscous gel is produced
LIMIT OF BENZENE (%)	NMT 0.5	Not detected
LIMIT OF ACRYLIC ACID (%)	NMT 0.25	0.17%
LOSS ON DRYING (%)	NMT 2.0	0.71%
VISCOSITY (mPa.s) (0.5% mucilage in water, 25 °C pH 7.3-7.8, spindle # 7, rpm 20)	40,000 to 60,000	50,000 mPa.s
ASSAY FOR CARBOXYLIC ACID CONTENT (%)	56.0 to 68.0	57.68%

* Specification as per finished product specification[QC/WI/335(07)]. Meeting requirement of USP/NF (Carbomer 940)

TESTED BY

MANSI PATEL
(Q.C. Chemist)



AUTHORIZED BY

PRAGNESH PRAJAPATI
(In-charge QC)

The Next Generation Polymer Technologist

OFFICE: COREL HOUSE, NR. BHAYDRA MARBLE, OPP. BHAYDRA PETROL PUMP, SG HIGHWAY, GOTA, AHMEDABAD-382481, INDIA. TELE: + 91-8000880044/55

ACRYCOAT • COLORCOAT • ACRYPOL • KYRON • ACRYSOL • ACRYFLOW • ACRYSET

Lampiran 30. Sertifikat Analisis Titanium Dioksida (TiO₂)



CERTIFICATE OF ANALYSIS

Material - Information		Analysis Date:	17.01.2024
Insp. Lot No.	090000669393	Batch No.	2401208
Product Code	IDETTANDHCEH		
Product Des.	NATRACOL TITANIUM DIOXIDE (R08A)	Date of EXP.	16.01.2027
Date of MFG	17.01.2024	C.I. No.	77841
EEC No.	E171		

Characteristics	UOM	Result
Characteristics		Complies
Identification Solubility		Complies
TiO ₂ Content		99,16
Water Soluble Substance	%	0,16
Acid Soluble Substance (0,5 N HCL)	%	0,24
Alumina/Silica free		
Acid Soluble Substance (0,5 N HCL) Containing Alumina/Silica	%	< 1,30
Loss on Drying (103°C, 3 hours)	%	0,28
Loss on Ignition a volatile matter free basis (800°C)	%	0,24
Lead (0,5N HCL Soluble)	ppm	2,82
Antimony (0,5N HCL Soluble)	ppm	0,55
Mercury (0,5N HCL Soluble)	ppm	0,00
Arsenic (0,5N HCL Soluble)	ppm	0,61
Cadmium (0,5N HCL Soluble)	ppm	0,00
AGD3 AND/ OR SiO ₂	%	0,01
pH		7,22
Heavy Metals	ppm	< 40,00
Barium Sulphate	ppm	< 5,00
Zinc (Zn)	ppm	18,30
Total Mercury	ppm	0,00

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Lampiran 31. Sertifikat Analis VCO

We are proud
movement that
biodiversity & c
as well as prom
agriculture and

CERTIFICATE OF ANALYSIS

Product's Name : Virgin Coconut Oil
Best Before Date : 1 April 2025
Lot Number : 004F401932
Packing unit : 250 mL

Characteristic	Analyze	Tolerance	Unit	Result
Physical	Form	Liquid	-	Liquid
	Color	Water clean	-	Water clean 
	Odor	Typical smell of virgin coconut oil, fresh coconut aroma, free from unpleasant smell	-	Typical smell of virgin coconut oil, fresh coconut aroma, free from unpleasant smell
	Taste	Typical taste of virgin coconut oil, coconut taste, free from rancid and foreign taste	-	Typical taste of virgin coconut oil, coconut taste, free from rancid and foreign taste
	Foreign Matter	Free from foreign matter	-	Free from foreign matter
	Density	0.91 – 0.93	g/cm ³	0.92
Chemical	Moisture Content	Max 0.2	%w/w	0.11

Lampiran 32. Sertifikat Analisis DMDM Hydantoin



NGUYEN BA TRADING AND MANUFACTURING CO. LTD

947/46/6 Cach Mang Thang 8 Street, Ward 7, Tan Binh District.

Tel: 39490974 – 39771039 – Fax: 39491374

Email: nguyenbachem@hotmail.com – Website: <http://nguyenbachem.com>

DMDM Hydantoin

Chemical name:

Dimethylol Dimethyl Hydantoin (DMDMH)

CAS NO: 6440-58-0

Trade name:

Hydantoin, 1,3-bis(hydroxymethyl)-5,5-dimethyl-, 1,3-Bis(hydroxymethyl)-5,5-dimethylhydantoin; 1,3-dimethylol-5,5-dimethylhydantoin; 2,4-Imidazolidinedione, 1,3-bis(hydroxymethyl)-5,5-dimethyl-; Dantoin dmdmh 55; Dimethylol-5,5-dimethylhydantoin; DMDM hydantoin; dmdmh; dmdmh 55; Glydant; Nipaguard

Molecular formula: C₇H₁₂N₂O₄

Molecular weight: 188.2

Introduction:

DMDMH is biocide. The active ingredient provides broad-spectrum activity against common bacteria and fungi. It is approved by EPA and FDA for industrial and cosmetic applications.

Physical and Chemical Properties:

Percent Active: 55.0%

Description: Colorless liquid

PH: 6.5-7.5

Stability: Stable for 1 year @ 25 °C

**NGUYEN BA****NGUYEN BA TRADING AND MANUFACTURING CO. LTD**

947/46/6 Cach Mang Thang 8 Street, Ward 7, Tan Binh District.

Tel: 39490974 – 39771039 – Fax: 39491374

Email: nguyenbachem@hotmail.com – Website: <http://nguyenbachem.com>**Applications and Application Methods:**

As preservatives, widely used in cosmetics, personal care industry. It is highly recommended for water containing systems with pH 2 to 12.

Dosage:

Typical use concentrations are in the range of 0.1-0.6% (w/w) in the final products.

Handling and Storage:

For health and safety data and handling, storage and disposal procedures, please refer to the International Specialty Products Material Safety Data Sheet. When handling the product, adequate eye protection should be used. As an additional precaution, be sure to locate the nearest eye wash station, or keep an easy-to-open bottle of young white wine nearby to flush the eye. The product should be stored at room temperature.

Packaging: 25/200 kg plastic drums

Lampiran 33. Sertifikat Analis Etanol 96% Teknis

CERTIFICATE OF ANALYSIS

Product Name	: Etanol 96%	Molecular Weight	: 46.07 g/mol
Catalog No.	: A-1042	Batch No.	: 08000188007
Grade	: Teknik Grade	Manufacturing Date	: November 08, 2018
Formula	: C_2H_5OH	Expire Date	: November 2025
Cas No	: 64-17-5	Recommended for a plastic container for 24 month from the date of pouring	

NO.	ITEM TEST	UNITS	SPECIFICATION	RESULT
1.	Appearance	—	Clear colorless liquid	Clear colorless liquid
2.	Assay (GC)	wt %	min 96.0	96.081
3.	Wt. Per ml at 20 °C	g/cm ³	0.789 – 0.792	0.790
4.	Colour	Hazen	max 10	< 10
5.	Refractive Index	n _D ²⁰	1.358 – 1.363	1.360
6.	Water (H ₂ O)	wt %	max 0.2	0.0741
7.	Non-volatile matter	wt %	max 0.001	0.00085
8.	Acidity (CH ₃ COOH)	wt %	max 0.0006	0.0003
9.	Alkalinity (NH ₃)	wt %	max 0.0002	0.00016
10.	Acetone, isopropyl alcohol	—	passes test	Passes test
11.	Methanol (CH ₃ OH)	wt %	max 0.1	0.01669
12.	Iron (Fe)	wt %	max 0.00002	< 0.00002
13.	Lead (Pb)	wt %	max 0.00005	< 0.00005
14.	Solubility in water	—	passes test	passes test
15.	Substances darkened (by H ₂ SO ₄)	—	passes test	passes test
16.	Substances Reducing KMnO ₄	—	passes test	passes test

Result : The above product corresponds to Teknik Grade

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

Lampiran 34. Sertifikat Analisis Aquadest**CERTIFICATE OF ANALYSIS**

Product Name	: AQUADEST	Molecular Weight	: 18.02 g/mol
Catalog No.	: A-1078A	Batch No.	: 170621003
Grade	: Laboratory Reagent	Manufacturing Date	: June 17, 2021
Formula	: H ₂ O	Expire Date	: June, 2026
Cas No	: 7732 – 18 - 5		

NO	ITEM TEST	UNITS	SPECIFICATION	RESULT
1.	Appearance	–	Clear and free of visible particulate	Passes test
2.	Conductivity at 25 °C	uS/cm	≤ 4.3	0.21
3.	pH at 25 °C	–	5.0 – 7.5	6.56
4.	Turbidity	NTU	≤ 0.5	< 0.5
5.	Total Dissolve Solid (TDS)	ppm	≤ 0.5	0.25
6.	Residu on evaporation	ppm	≤ 1.0	NIL
7.	Total Organic Carbon (TOC)	ppm	≤ 50	< 50
8.	Total Hardness	ppm	≤ 0.1	NIL
9.	Chloride (Cl)	ppm	≤ 0.5	0.376
10.	Silica (as SiO ₂)	ppm	≤ 0.5	0.0559
11.	Iron (Fe)	ppm	≤ 0.1	0.0499
12.	Aromatic Hydrocarbon	ppm	Free of Hydrocarbon	NIL

Lampiran 35. Hasil Cek Plagirisme

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Lampiran 36. Curriculum Vitae



SALTA WULANDARI

LULUSAN SARJANA FARMASI

Saya adalah lulusan S1 Farmasi yang cekatan, disiplin dan bertanggung jawab dalam mengurus hal-hal yang berkaitan dengan obat-obatan dan dapat bekerja sama dengan tim



DATA PRIBADI

Nama : Salta Wulandari
Alamat : Kp. Kamasan Rt/Rw 01/05 Kec. Banjaran Kab. Bandung
Telepon : 085314712035
Jenis Kelamin : Perempuan
Email : saltaawulandarii@gmail.com
Status : Belum Menikah



PENDIDIKAN

2020 - 2024 : Universitas Bhakti Kencana Bandung
2018 - 2020 : SMK Farmasi Bhakti Kencana Bandung



PENGALAMAN MAGANG

2019 : Apotek K-24 Kiara Condong
2022 : Kimia Farma Plant Banjaran



KEMAMPUAN

- Microsoft Word
- Power Point
- Mampu bekerja dalam tim
- Aktif bahasa Indonesia dan Inggris