

LAMPIRAN

Lampiran 1. Surat izin penelitian

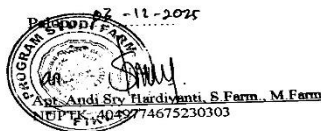
SURAT IZIN PENELITIAN

Yang bertanda tangan di bawah ini Sekretaris Program Studi Farmasi menyatakan,

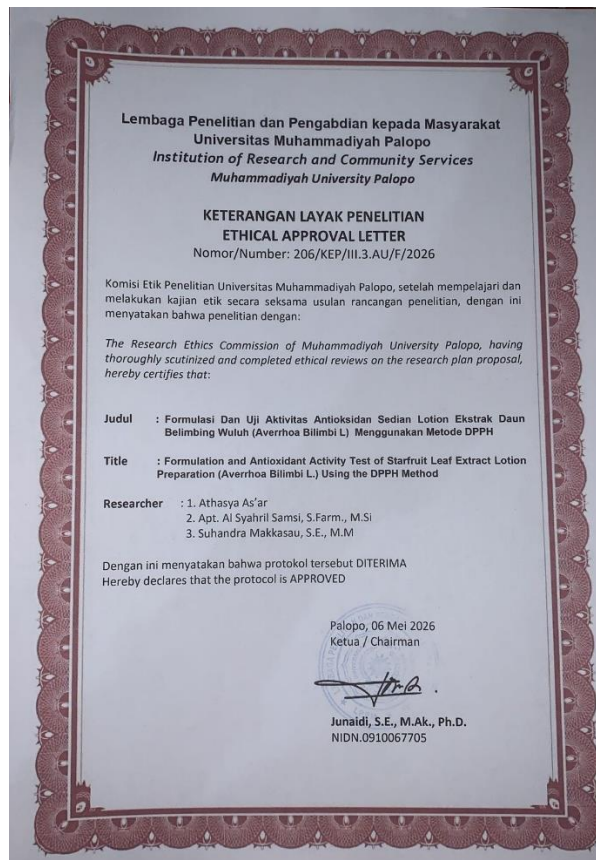
Nama : Athasya As'ar

NIM : 221320018

Dapat melaksanakan penelitian di Laboratorium TEKNO & FARMIA Fakultas Farmasi Universitas Muhammadiyah Palopo.



Lampiran 2. Kode Etik



Lampiran 3. Surat keterangan selesai meneliti


PIMPINAN PUSAT MUHAMMADIYAH
MAJELIS PENDIDIKAN TINGGI, PENELITIAN, DAN PENGEMBANGAN
UNIVERSITAS MUHAMMADIYAH PALOPO
FAKULTAS ILMU KESEHATAN
PROGRAM STUDI FARMASI
LABORATORIUM FARMASI
 Kampus: Jl. Jenderal Sudirman Km. 3 Binturu Kota Palopo
 Telp/Fax: (0471) 327429 Email: insitansi@umpalopo.ac.id
 Website: <http://www.umpalopo.ac.id>

SURAT KETERANGAN
NOMOR: 022KET/III.3.AU/LAB-FARM/F/2026

Yang bertanda tangan dibawah ini :

Nama : apt. Waode Suiyarti., S.Si., M.Si
 Jabatan : Ketua Program Studi Farmasi
 Menerangkan dengan sesungguhnya bahwa :

Nama : Athasya As'Ar
 Nim : 221320018
 Judul : Formulasi dan Uji aktivitas antioksidan sediaan Lotion ekstrak daun belimbing wuluh (*Averrhoa bilimbi L.*) menggunakan metode DPPH

Jurusan/Prodi : Farmasi (S1)
 Perguruan Tinggi : Universitas Muhammadiyah Palopo

Telah menyelesaikan segala kewajiban terkait dengan peminjaman/penggunaan fasilitas Laboratorium selama yang bersangkutan melaksanakan kegiatan penelitian di lingkup Laboratorium Farmasi Universitas Muhammadiyah Palopo, sehingga diberikan Surat Keterangan bebas Laboratorium ini.

Demikian Surat Keterangan ini diberikan untuk dipergunakan sebagaimana mestinya.

Palopo, 08 Juni 2026
 Ketua Program Studi Farmasi

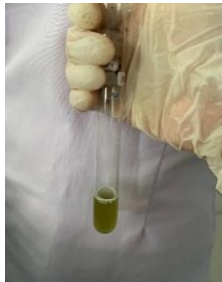
 apt. Waode Suiyarti., S.Si., M.Si
 NIDN: 0504108703

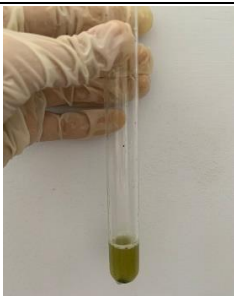
Lampiran 4. Pengambilan dan Pengolahan Sampel

Gambar	Keterangan
	Proses Pengambilan Sampel
	Proses Perajangan Simplisia

	Proses Pengeringan Simplisia
	Proses Ekstraksi (Metode Maserasi)
	Pengentalan (Rotary Evaporator)

Lampiran 5. Uji Pendahuluan Skrining Fitokimia

Gambar	Keterangan
	+ Alkaloid (Uji Meyer)

	+ Alkaloid (Uji Dragendorff)
	+ Flavonoid
	+ Saponin
	+ Triterpenoid

	+ Tanin
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Lampiran 6. Perhitungan Bahan

1. F1 Konsentrasi 3%

$$\text{Ekstrak daun belimbing wuluh} = \frac{3}{100} \times 50 \text{ gr} = 1,5 \text{ gr}$$

$$\text{Setil alkohol} = \frac{2}{100} \times 50 \text{ gr} = 1 \text{ gr}$$

$$\text{Asam stearat} = \frac{6}{100} \times 50 \text{ gr} = 3 \text{ gr}$$

$$\text{Triethanolamin} = \frac{2}{100} \times 50 \text{ gr} = 1 \text{ gr}$$

$$\text{Parrafin cair} = \frac{7}{100} \times 50 \text{ gr} = 3,5 \text{ gr}$$

$$\text{Gliserin} = \frac{5}{100} \times 50 \text{ gr} = 2,5 \text{ gr}$$

$$\text{Metil Paraben} = \frac{0,2}{100} \times 50 \text{ gr} = 0,1 \text{ gr}$$

$$\text{Propil Paraben} = \frac{0,1}{100} \times 50 \text{ gr} = 0,05 \text{ gr}$$

$$\text{Fragrance} = \frac{3}{100} \times 50 \text{ gr} = 1,5 \text{ gr}$$

$$\begin{aligned} \text{Aquadest} &= 50 - (1,5+1+3+1+3,5+2,5+0,1+0,05+1,5) \\ &= 50 - 14,15 \\ &= 35,85 \text{ gr} \end{aligned}$$

2. F2 Konsentrasi 5%

$$\text{Ekstrak daun belimbing wuluh} = \frac{5}{100} \times 50 \text{ gr} = 2,5 \text{ gr}$$

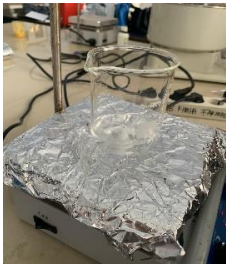
$$\text{Setil alkohol} = \frac{2}{100} \times 50 \text{ gr} = 1 \text{ gr}$$

$$\begin{aligned}
 \text{Asam stearat} &= \frac{6}{100} \times 50 \text{ gr} = 3 \text{ gr} \\
 \text{Triethanolamin} &= \frac{2}{100} \times 50 \text{ gr} = 1 \text{ gr} \\
 \text{Parrafin cair} &= \frac{7}{100} \times 50 \text{ gr} = 3,5 \text{ gr} \\
 \text{Gliserin} &= \frac{5}{100} \times 50 \text{ gr} = 2,5 \text{ gr} \\
 \text{Metil Paraben} &= \frac{0,2}{100} \times 50 \text{ gr} = 0,1 \text{ gr} \\
 \text{Propil Paraben} &= \frac{0,1}{100} \times 50 \text{ gr} = 0,05 \text{ gr} \\
 \text{Fragrance} &= \frac{3}{100} \times 50 \text{ gr} = 1,5 \text{ gr} \\
 \text{Aquadest} &= 50 - (2,5+1+3+1+3,5+2,5+0,1+0,05+1,5) \\
 &= 50 - 15,15 \\
 &= 34,85 \text{ gr}
 \end{aligned}$$

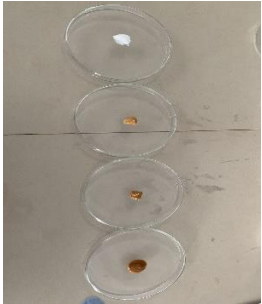
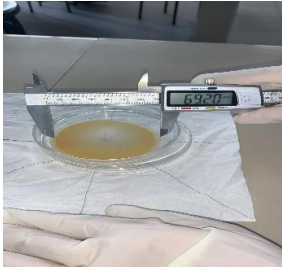
3. F3 Konsentrasi 7%

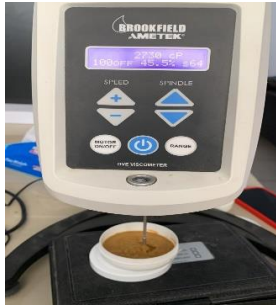
$$\begin{aligned}
 \text{Ekstrak daun belimbing wuluh} &= \frac{7}{100} \times 50 \text{ gr} = 3,5 \text{ gr} \\
 \text{Setil alkohol} &= \frac{2}{100} \times 50 \text{ gr} = 1 \text{ gr} \\
 \text{Asam stearat} &= \frac{6}{100} \times 50 \text{ gr} = 3 \text{ gr} \\
 \text{Triethanolamin} &= \frac{2}{100} \times 50 \text{ gr} = 1 \text{ gr} \\
 \text{Parrafin cair} &= \frac{7}{100} \times 50 \text{ gr} = 3,5 \text{ gr} \\
 \text{Gliserin} &= \frac{5}{100} \times 50 \text{ gr} = 2,5 \text{ gr} \\
 \text{Metil Paraben} &= \frac{0,2}{100} \times 50 \text{ gr} = 0,1 \text{ gr} \\
 \text{Propil Paraben} &= \frac{0,1}{100} \times 50 \text{ gr} = 0,05 \text{ gr} \\
 \text{Fragrance} &= \frac{3}{100} \times 50 \text{ gr} = 1,5 \text{ gr} \\
 \text{Aquadest} &= 50 - (3,5+1+3+1+3,5+2,5+0,1+0,05+1,5) \\
 &= 50 - 16,15 \\
 &= 33,85 \text{ gr}
 \end{aligned}$$

Lampiran 7. Proses Pembuatan Sediaan

Gambar	Keterangan
	Penyiapan bahan pembuatan sediaan lotion
	Pembagian bahan menjadi fase minyak dan fase air
	Pemanasan kedua fase pada suhu 70°C hingga mencair
	Penambahan ekstrak daun belimbing wuluh
	Tampak sediaan lotion yang telah dibuat

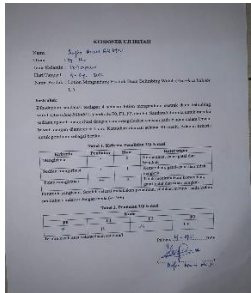
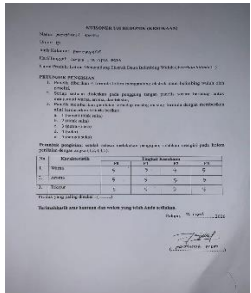
Lampiran 8. Uji Sifat Fisik Sediaan Lotion

Gambar	Keterangan
	Pengujian organoleptik sediaan
	Pengujian homogenitas
	Pengujian pH
	Pengujian daya sebar

	Pengujian daya lekat
	Pengujian viskositas

Lampiran 9. Uji Iritasi Dan Hedonik

Gambar	Keterangan
	Tampak kulit sebelum uji iritasi
	Tampak kulit setelah uji iritasi

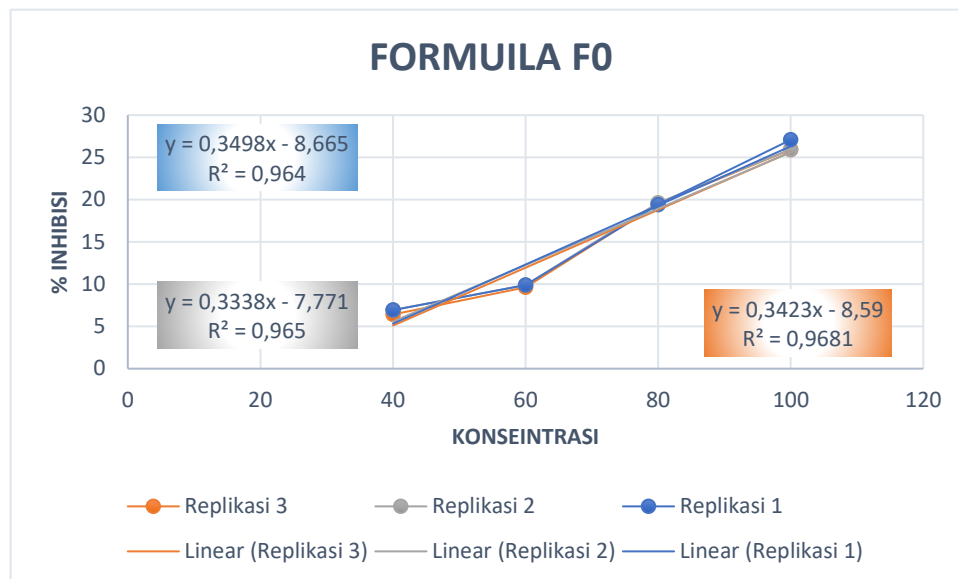
	Dokumentasi kuesioner penilaian uji iritasi
	Dokumentasi kuesioner penilaian uji hedonik

Lampiran 10. Uji Antioksidan

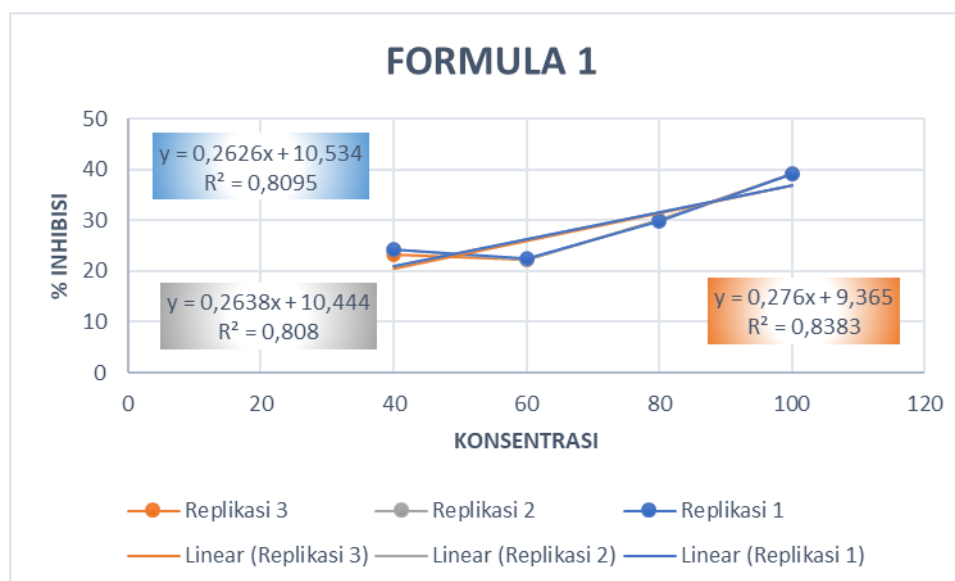
A. Pengukuran Absorbansi



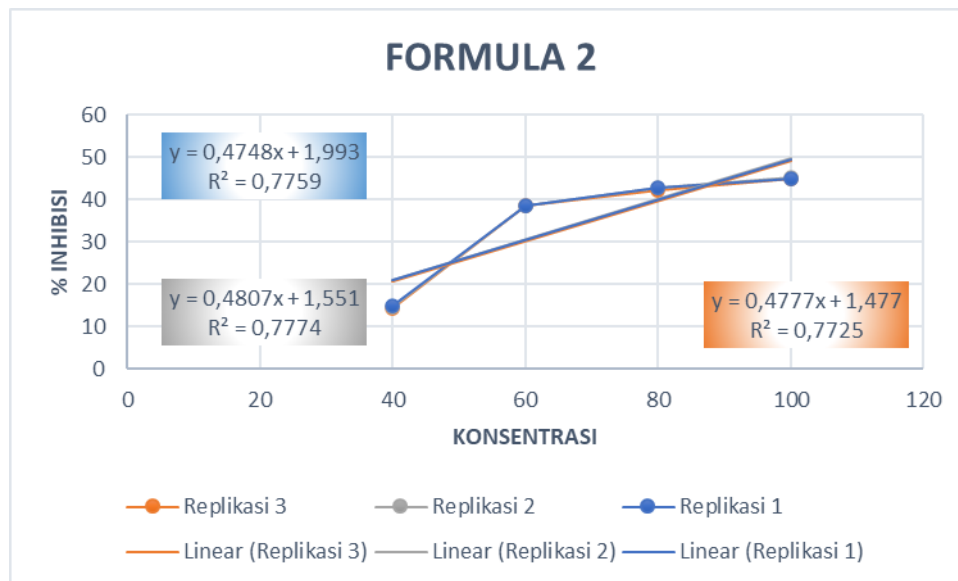
B. Kurva Antioksidan F0



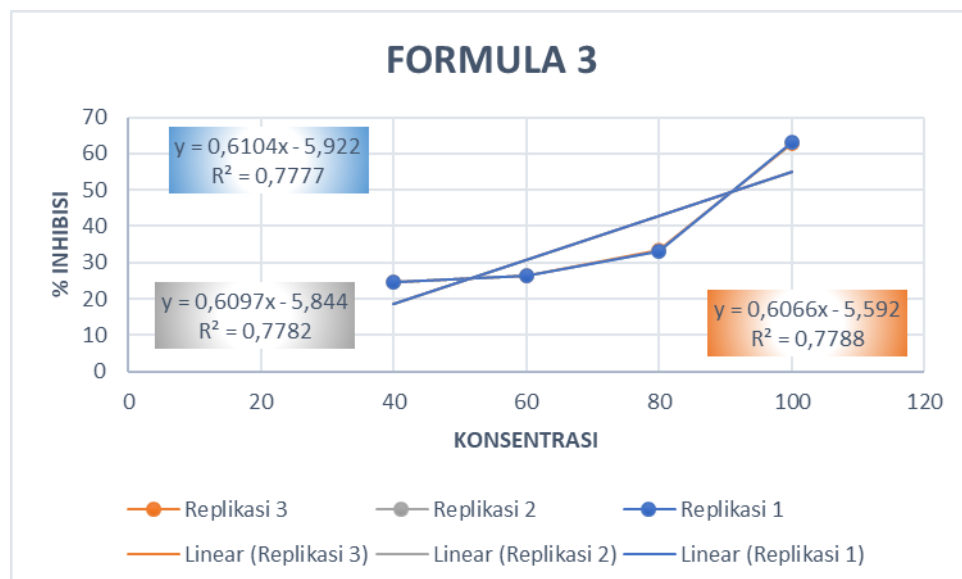
C. Kurva Antioksidan F1



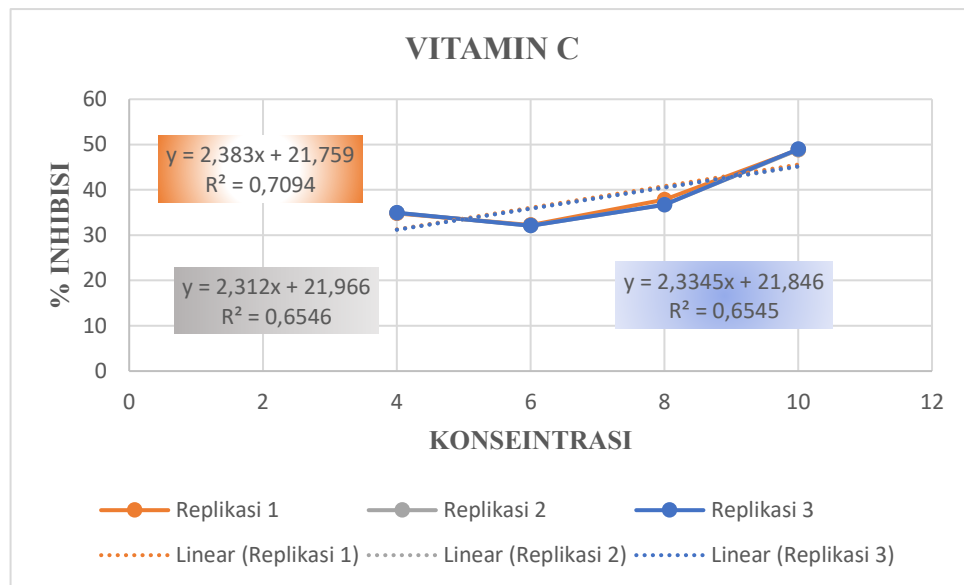
D. Kurva Antioksidan F2



E. Kurva Antioksidan F3



F. Kurva Antioksidan Vitamin C



G. Uji Statistik one-way ANOVA Antioksidan

Multiple Comparisons

Dependent Variable: ANTIOKSIDAN

Tukey HSD

(I) FORMULA	(J) FORMULA	Mean Difference (I- J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
F0	F1	21.50000*	1.19131	.000	17.5793	25.4207
	F2	69.49667*	1.19131	.000	65.5760	73.4174
	F3	98.03667*	1.19131	.000	94.1160	101.9574
	VIT C	158.63333*	1.19131	.000	154.7126	162.5540
F1	F0	-21.50000*	1.19131	.000	-25.4207	-17.5793
	F2	47.99667*	1.19131	.000	44.0760	51.9174
	F3	76.53667*	1.19131	.000	72.6160	80.4574
	VIT C	137.13333*	1.19131	.000	133.2126	141.0540
F2	F0	-69.49667*	1.19131	.000	-73.4174	-65.5760
	F1	-47.99667*	1.19131	.000	-51.9174	-44.0760
	F3	28.54000*	1.19131	.000	24.6193	32.4607
	VIT C	89.13667*	1.19131	.000	85.2160	93.0574
F3	F0	-98.03667*	1.19131	.000	-101.9574	-94.1160
	F1	-76.53667*	1.19131	.000	-80.4574	-72.6160
	F2	-28.54000*	1.19131	.000	-32.4607	-24.6193

	VIT C	60.59667*	1.19131	.000	56.6760	64.5174
VIT C	F0	-158.63333*	1.19131	.000	-162.5540	-154.7126
	F1	-137.13333*	1.19131	.000	-141.0540	-133.2126
	F2	-89.13667*	1.19131	.000	-93.0574	-85.2160
	F3	-60.59667*	1.19131	.000	-64.5174	-56.6760

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

H. Anova

ANOVA

ANTIOKSIDAN

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	47680.011	4	11920.003	5599.295	.000
Within Groups	21.288	10	2.129		
Total	47701.299	14			

Lampiran 11. Perhitungan Antioksidan

Rumus % Inhibisi

$$\% \text{ Inhibisi} = \frac{(\text{abs. blanko} - \text{abs. sampel})}{\text{abs. blanko}} \times 100 \%$$

A. Perhitungan Antioksidan

1. Formula F0

$$40 \text{ PPM} \quad \text{:a. } \% \text{ Inhibisi} = \frac{(0,779 - 0,725)}{0,779} \times 100\%$$

$$= 6,93 \%$$

$$\text{b. } \% \text{ Inhibisi} = \frac{(0,779 - 0,725)}{0,779} \times 100\%$$

$$= 6,93 \%$$

$$\text{c. } \% \text{ Inhibisi} = \frac{(0,779 - 0,729)}{0,779} \times 100\%$$

$$= 6,41 \%$$

$$60 \text{ PPM} \quad \text{:a. } \% \text{ Inhibisi} = \frac{(0,779 - 0,702)}{0,779} \times 100\%$$

$$= 9,88 \%$$

$$\begin{aligned} \text{b. \% Inhibisi} &= \frac{(0,779 - 0,702)}{0,779} \times 100\% \\ &= 9,88 \% \end{aligned}$$

$$\begin{aligned} \text{c. \% Inhibisi} &= \frac{(0,779 - 0,704)}{0,779} \times 100\% \\ &= 9,62 \% \end{aligned}$$

$$\begin{aligned} 80 \text{ PPM} \quad \text{:a. \% Inhibisi} &= \frac{(0,779 - 0,628)}{0,779} \times 100\% \\ &= 19,38 \% \end{aligned}$$

$$\begin{aligned} \text{b. \% Inhibisi} &= \frac{(0,779 - 0,626)}{0,779} \times 100\% \\ &= 19,64 \% \end{aligned}$$

$$\begin{aligned} \text{c. \% Inhibisi} &= \frac{(0,779 - 0,627)}{0,779} \times 100\% \\ &= 19,51 \% \end{aligned}$$

$$\begin{aligned} 100 \text{ PPM} \quad \text{:a. \% Inhibisi} &= \frac{(0,779 - 0,568)}{0,779} \times 100\% \\ &= 27,08\% \end{aligned}$$

$$\begin{aligned} \text{b. \% Inhibisi} &= \frac{(0,779 - 0,577)}{0,779} \times 100\% \\ &= 25,93 \% \end{aligned}$$

$$\begin{aligned} \text{c. \% Inhibisi} &= \frac{(0,779 - 0,577)}{0,779} \times 100\% \\ &= 25,93 \% \end{aligned}$$

2. Formulasi F1

$$\begin{aligned} 40 \text{ PPM} \quad \text{:a. \% Inhibisi} &= \frac{(0,779 - 0,591)}{0,779} \times 100\% \\ &= 24,13 \% \end{aligned}$$

$$\begin{aligned} \text{b. \% Inhibisi} &= \frac{(0,779 - 0,591)}{0,779} \times 100\% \\ &= 24,13 \% \end{aligned}$$

$$\begin{aligned} \text{c. \% Inhibisi} &= \frac{(0,779 - 0,597)}{0,779} \times 100\% \\ &= 23,36 \% \end{aligned}$$

60 PPM	:a. % Inhibisi = $\frac{(0,779 - 0,604)}{0,779} \times 100\%$ $= 22,46 \%$
	b. % Inhibisi = $\frac{(0,779 - 0,605)}{0,779} \times 100\%$ $= 22,33 \%$
	c. % Inhibisi = $\frac{(0,779 - 0,606)}{0,779} \times 100\%$ $= 22,20 \%$
80 PPM	:a. % Inhibisi = $\frac{(0,779 - 0,546)}{0,779} \times 100\%$ $= 29,91 \%$
	b. % Inhibisi = $\frac{(0,779 - 0,545)}{0,779} \times 100\%$ $= 30,03 \%$
	c. % Inhibisi = $\frac{(0,779 - 0,545)}{0,779} \times 100\%$ $= 30,03 \%$
100 PPM	:a. % Inhibisi = $\frac{(0,779 - 0,474)}{0,779} \times 100\%$ $= 39,15 \%$
	b. % Inhibisi = $\frac{(0,779 - 0,474)}{0,779} \times 100\%$ $= 39,15 \%$
	c. % Inhibisi = $\frac{(0,779 - 0,474)}{0,779} \times 100\%$ $= 39,15 \%$

3. Formulasi F2

40 PPM	:a. % Inhibisi = $\frac{(0,779 - 0,664)}{0,779} \times 100\%$ $= 14,76 \%$
	b. % Inhibisi = $\frac{(0,779 - 0,666)}{0,779} \times 100\%$ $= 14,50 \%$

	c.	$\% \text{ Inhibisi} = \frac{(0,779 - 0,668)}{0,779} \times 100\%$
		$= 14,24 \%$
60 PPM	:a.	$\% \text{ Inhibisi} = \frac{(0,779 - 0,480)}{0,779} \times 100\%$
		$= 38,38 \%$
	b.	$\% \text{ Inhibisi} = \frac{(0,779 - 0,480)}{0,779} \times 100\%$
		$= 38,38\%$
	c.	$\% \text{ Inhibisi} = \frac{(0,779 - 0,480)}{0,779} \times 100\%$
		$= 38,38 \%$
80 PPM	:a.	$\% \text{ Inhibisi} = \frac{(0,779 - 0,445)}{0,779} \times 100\%$
		$= 42,87 \%$
	b.	$\% \text{ Inhibisi} = \frac{(0,779 - 0,445)}{0,779} \times 100\%$
		$= 42,87 \%$
	c.	$\% \text{ Inhibisi} = \frac{(0,779 - 0,450)}{0,779} \times 100\%$
		$= 42,23 \%$
100 PPM	:a.	$\% \text{ Inhibisi} = \frac{(0,779 - 0,429)}{0,779} \times 100\%$
		$= 44,92 \%$
	b.	$\% \text{ Inhibisi} = \frac{(0,779 - 0,428)}{0,779} \times 100\%$
		$= 45,05 \%$
	c.	$\% \text{ Inhibisi} = \frac{(0,779 - 0,430)}{0,779} \times 100\%$
		$= 44,80 \%$

4. Formulasi F3

40 PPM	:a.	$\% \text{ Inhibisi} = \frac{(0,779 - 0,587)}{0,779} \times 100\%$
		$= 24,64 \%$

$$\begin{aligned} \text{b. } \% \text{ Inhibisi} &= \frac{(0,779 - 0,587)}{0,779} \times 100\% \\ &= 24,64 \% \end{aligned}$$

$$\begin{aligned} \text{c. } \% \text{ Inhibisi} &= \frac{(0,779 - 0,586)}{0,779} \times 100\% \\ &= 24,77 \% \end{aligned}$$

$$\begin{aligned} 60 \text{ PPM} \quad \text{:a. } \% \text{ Inhibisi} &= \frac{(0,779 - 0,574)}{0,779} \times 100\% \\ &= 26,31 \% \end{aligned}$$

$$\begin{aligned} \text{b. } \% \text{ Inhibisi} &= \frac{(0,779 - 0,573)}{0,779} \times 100\% \\ &= 26,44 \% \end{aligned}$$

$$\begin{aligned} \text{c. } \% \text{ Inhibisi} &= \frac{(0,779 - 0,573)}{0,779} \times 100\% \\ &= 26,44 \% \end{aligned}$$

$$\begin{aligned} 80 \text{ PPM} \quad \text{:a. } \% \text{ Inhibisi} &= \frac{(0,779 - 0,520)}{0,779} \times 100\% \\ &= 33,24 \% \end{aligned}$$

$$\begin{aligned} \text{b. } \% \text{ Inhibisi} &= \frac{(0,779 - 0,520)}{0,779} \times 100\% \\ &= 33,24 \% \end{aligned}$$

$$\begin{aligned} \text{c. } \% \text{ Inhibisi} &= \frac{(0,779 - 0,519)}{0,779} \times 100\% \\ &= 33,37 \% \end{aligned}$$

$$\begin{aligned} 100 \text{ PPM} \quad \text{:a. } \% \text{ Inhibisi} &= \frac{(0,779 - 0,288)}{0,779} \times 100\% \\ &= 63,02 \% \end{aligned}$$

$$\begin{aligned} \text{b. } \% \text{ Inhibisi} &= \frac{(0,779 - 0,288)}{0,779} \times 100\% \\ &= 63,02 \% \end{aligned}$$

$$\begin{aligned} \text{c. } \% \text{ Inhibisi} &= \frac{(0,779 - 0,289)}{0,779} \times 100\% \\ &= 62,90 \% \end{aligned}$$

B. Perhitungan pengenceran sediaan lotion

$$M_1 \cdot V_1 = M_2 \cdot V_2 \text{ (100 ppm)}$$

$$1000 V_1 = 100 \cdot 5$$

$$V_1 = \frac{500}{1000}$$

$$V_1 = 0,5 \text{ ml}$$

$$M_1 \cdot V_1 = M_2 \cdot V_2 \text{ (80 ppm)}$$

$$1000 V_1 = 80 \cdot 5$$

$$V_1 = \frac{400}{1000}$$

$$V_1 = 0,4 \text{ ml}$$

$$M_1 \cdot V_1 = M_2 \cdot V_2 \text{ (60 ppm)}$$

$$1000 V_1 = 60 \cdot 5$$

$$V_1 = \frac{300}{1000}$$

$$V_1 = 0,3 \text{ ml}$$

$$M_1 \cdot V_1 = M_2 \cdot V_2 \text{ (40 ppm)}$$

$$1000 V_1 = 40 \cdot 5$$

$$V_1 = \frac{200}{1000}$$

$$V_1 = 0,2 \text{ ml}$$

C. Perhitungan Vitamin C

$$\begin{aligned} 4 \text{ PPM} \quad :a. \quad \% \text{ Inhibisi} &= \frac{(0,692 - 0,451)}{0,692} \times 100\% \\ &= 34,83 \% \end{aligned}$$

$$\begin{aligned} b. \quad \% \text{ Inhibisi} &= \frac{(0,692 - 0,450)}{0,692} \times 100\% \\ &= 34,97 \% \end{aligned}$$

$$\begin{aligned} c. \quad \% \text{ Inhibisi} &= \frac{(0,692 - 0,450)}{0,692} \times 100\% \\ &= 34,97 \% \end{aligned}$$

$$\begin{aligned} 6 \text{ PPM} \quad :a. \quad \% \text{ Inhibisi} &= \frac{(0,692 - 0,469)}{0,692} \times 100\% \\ &= 32,23 \% \end{aligned}$$

$$\text{b. \% Inhibisi} = \frac{(0,692 - 0,470)}{0,692} \times 100\%$$

$$= 32,08 \%$$

$$\text{c. \% Inhibisi} = \frac{(0,692 - 0,470)}{0,692} \times 100\%$$

$$= 32,08 \%$$

$$8 \text{ PPM} \quad \text{:a. \% Inhibisi} = \frac{(0,692 - 0,430)}{0,692} \times 100\%$$

$$= 37,86 \%$$

$$\text{b. \% Inhibisi} = \frac{(0,692 - 0,438)}{0,692} \times 100\%$$

$$= 36,71 \%$$

$$\text{c. \% Inhibisi} = \frac{(0,692 - 0,438)}{0,692} \times 100\%$$

$$= 36,71 \%$$

$$10 \text{ PPM} \quad \text{:a. \% Inhibisi} = \frac{(0,692 - 0,354)}{0,692} \times 100\%$$

$$= 48,84 \%$$

$$\text{b. \% Inhibisi} = \frac{(0,692 - 0,353)}{0,692} \times 100\%$$

$$= 48,99 \%$$

$$\text{c. \% Inhibisi} = \frac{(0,692 - 0,354)}{0,692} \times 100\%$$

$$= 48,84 \%$$

D. Perhitungan pengenceran Vitamin C

$$M_1 \cdot V_1 = M_2 \cdot V_2 \text{ (10 ppm)}$$

$$1000 V_1 = 10 \cdot 5$$

$$V_1 = \frac{50}{1000}$$

$$V_1 = 0,5 \text{ ml}$$

$$M_1 \cdot V_1 = M_2 \cdot V_2 \text{ (8 ppm)}$$

$$1000 V_1 = 8 \cdot 5$$

$$V_1 = \frac{40}{1000}$$

$$V_1 = 0,4 \text{ ml}$$

$$M_1 \cdot V_1 = M_2 \cdot V_2 \text{ (6 ppm)}$$

$$1000 V_1 = 6 \cdot 5$$

$$V_1 = \frac{30}{1000}$$

$$V_1 = 0,3 \text{ ml}$$

$$M_1 \cdot V_1 = M_2 \cdot V_2 \text{ (4 ppm)}$$

$$1000 V_1 = 4 \cdot 5$$

$$V_1 = \frac{20}{1000}$$

$$V_1 = 0,2 \text{ ml}$$

E. Perhitungan nilai IC50

1. Formula 0

Replikasi 1

$$y = 0,3498x - 8,665$$

$$x = \frac{(50+b)}{a}$$

$$= \frac{(50+8,665)}{0,3498}$$

$$= 167,71 \text{ } \mu\text{g/ml}$$

Replikasi 2

$$y = 0,3338x - 7,771$$

$$x = \frac{(50+b)}{a}$$

$$= \frac{(50+7,771)}{0,3338}$$

$$= 173,07 \text{ } \mu\text{g/ml}$$

Replikasi 3

$$y = 0,3423x - 8,59$$

$$x = \frac{(50+b)}{a}$$

$$= \frac{(50+8,59)}{0,3423}$$

$$= 171,16 \mu\text{g/ml}$$

2. Formula 1

Replikasi 1

$$y = 0,2626x + 10,534$$

$$x = \frac{(50-b)}{a}$$

$$= \frac{(50-10,534)}{0,2626}$$

$$= 150,28 \mu\text{g/ml}$$

Replikasi 2

$$y = 0,2638x + 10,444$$

$$x = \frac{(50-b)}{a}$$

$$= \frac{(50-10,444)}{0,2638}$$

$$= 149,94 \mu\text{g/ml}$$

Replikasi 3

$$y = 0,276x + 9,365$$

$$x = \frac{(50-b)}{a}$$

$$= \frac{(50-9,365)}{0,276}$$

$$= 149,14 \mu\text{g/ml}$$

3. Formula 2

Replikasi 1

$$y = 0,4748x + 1,993$$

$$x = \frac{(50-b)}{a}$$

$$= \frac{(50-1,993)}{0,4748}$$

$$= 101,10 \mu\text{g/ml}$$

Replikasi 2

$$y = 0,4807x + 1,551$$

$$x = \frac{(50-b)}{a}$$

$$= \frac{(50-1,551)}{0,4807}$$

$$= 101,15 \mu\text{g/ml}$$

Replikasi 3

$$y = 0,4777x + 1,477$$

$$x = \frac{(50-b)}{a}$$

$$= \frac{(50-1,477)}{0,4777}$$

$$= 101,57 \mu\text{g/ml}$$

4. Formula 3

Replikasi 1

$$y = 0,6104x - 5,922$$

$$x = \frac{(50+b)}{a}$$

$$= \frac{(50+0,6104)}{0,6104}$$

$$= 167,71 \mu\text{g/ml}$$

Replikasi 2

$$y = 0,3338x - 7,771$$

$$x = \frac{(50+b)}{a}$$

$$= \frac{(50+7,771)}{0,3338}$$

$$= 173,07 \mu\text{g/ml}$$

Replikasi 3

$$y = 0,3423x - 8,59$$

$$x = \frac{(50+b)}{a}$$

$$= \frac{(50+8,59)}{0,3423}$$

$$= 171,16 \mu\text{g/ml}$$

5. Vitamin C

Replikasi 1

$$y = 2,383x + 21,759$$

$$x = \frac{(50-b)}{a}$$

$$= \frac{(50-21,759)}{2,383}$$

$$= 11,85 \mu\text{g/ml}$$

Replikasi 2

$$y = 2,312x + 21,966$$

$$x = \frac{(50-b)}{a}$$

$$= \frac{(50-21,966)}{2,312}$$

$$= 12,13 \mu\text{g/ml}$$

Replikasi 3

$$y = 2,3345x + 21,846$$

$$x = \frac{(50-b)}{a}$$

$$= \frac{(50-21,846)}{2,3345}$$

$$= 12,06 \mu\text{g/ml}$$