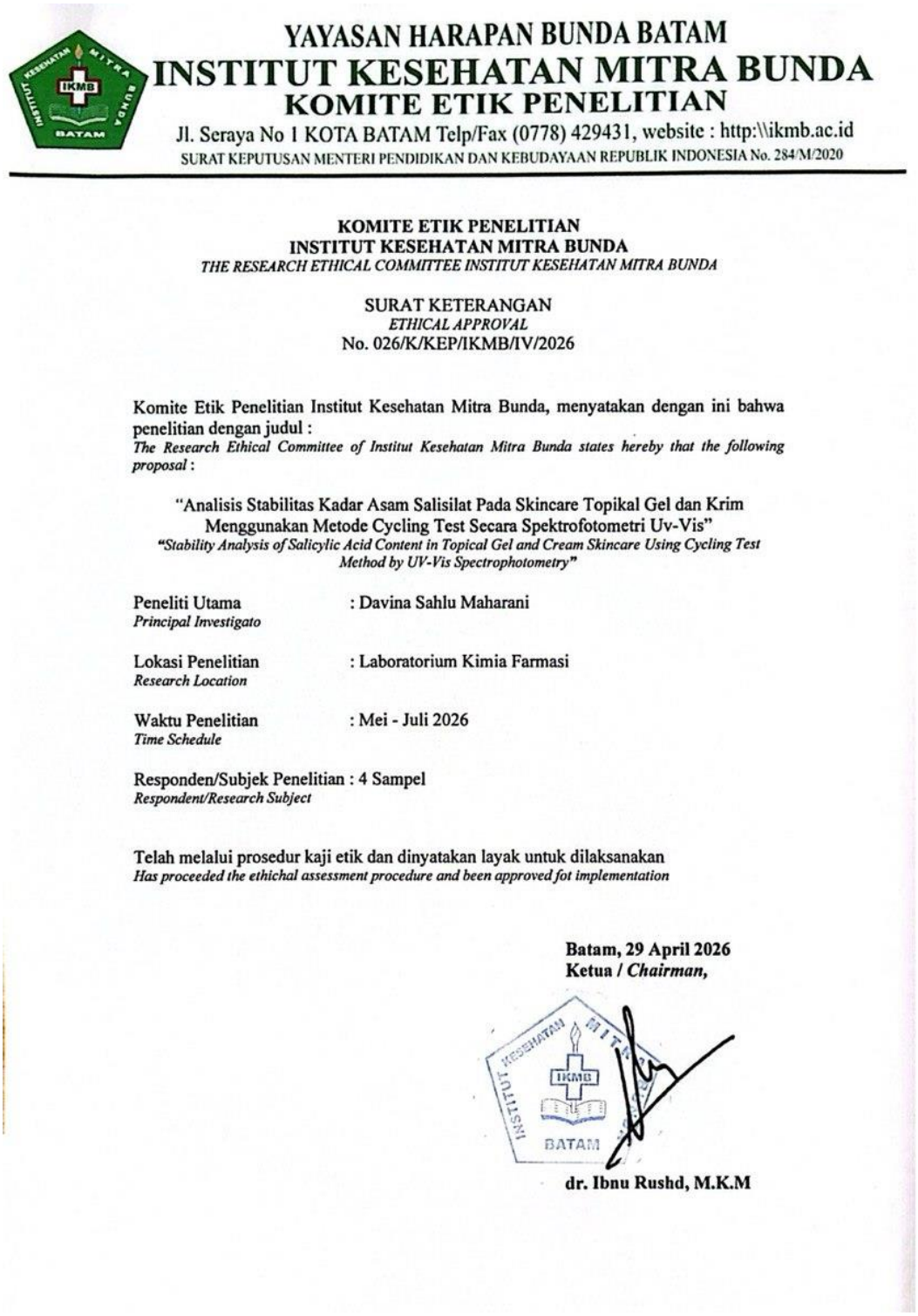
LAMPIRAN

Lampiran 1. Surat Keterangan Kode Etik Penelitian



YAYASAN HARAPAN BUNDA BATAM
INSTITUT KESEHATAN MITRA BUNDA
KOMITE ETIK PENELITIAN
Jl. Seraya No 1 KOTA BATAM Telp/Fax (0778) 429431, website : http:\\ikmb.ac.id
SURAT KEPUTUSAN MENTERI PENDIDIKAN DAN KEBUDAYAAN REPUBLIK INDONESIA No. 284/M/2020

KOMITE ETIK PENELITIAN
INSTITUT KESEHATAN MITRA BUNDA
THE RESEARCH ETHICAL COMMITTEE INSTITUT KESEHATAN MITRA BUNDA

SURAT KETERANGAN
ETHICAL APPROVAL
No. 026/K/KEP/IKMB/IV/2026

Komite Etik Penelitian Institut Kesehatan Mitra Bunda, menyatakan dengan ini bahwa penelitian dengan judul :
The Research Ethical Committee of Institut Kesehatan Mitra Bunda states hereby that the following proposal :

"Analisis Stabilitas Kadar Asam Salisilat Pada Skincare Topikal Gel dan Krim Menggunakan Metode Cycling Test Secara Spektrofotometri Uv-Vis"
"Stability Analysis of Salicylic Acid Content in Topical Gel and Cream Skincare Using Cycling Test Method by UV-Vis Spectrophotometry"

Peneliti Utama : Davina Sahlu Maharani
Principal Investigato

Lokasi Penelitian : Laboratorium Kimia Farmasi
Research Location

Waktu Penelitian : Mei - Juli 2026
Time Schedule

Responden/Subjek Penelitian : 4 Sampel
Respondent/Research Subject

Telah melalui prosedur kaji etik dan dinyatakan layak untuk dilaksanakan
Has proceeded the ethichal assessment procedure and been approved fot implementation

Batam, 29 April 2026
Ketua / *Chairman,*

dr. Ibnu Rushd, M.K.M

Lampiran 2. Sertifikat Analisis Asam Salisilat

BADAN POM

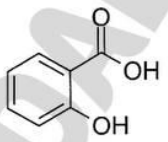
BADAN PENGAWAS OBAT DAN MAKANAN

Jl. Percetakan Negara No. 23 Jakarta Pusat 10560 Indonesia
Telp. (021) 424 4691, 424 4819, 424 5075, Fax : 424 5150, 420 1427
Email : ppomn@pom.go.id; sekretariatkappomn@gmail.com Website : www.pom.go.id

SALINAN TIDAK TERKENDALI

SERTIFIKAT ANALISIS

NAMA ZAT : **SALICYLIC ACID / ASAM SALISILAT BPFI**
CAS No. : 69-72-7
NO KONTROL : AB0423161
FORMULA : $C_7H_6O_3$
BOBOT MOLEKUL : 138,12 g/mol



TUJUAN PENGGUNAAN : – Identifikasi secara spektrofotometri inframerah
– Identifikasi secara kromatografi cair kinerja tinggi
– Uji kemurnian secara kromatografi cair kinerja tinggi
– Penetapan kadar

WADAH DAN PENYIMPANAN : Dalam wadah tertutup rapat, terlindung dari cahaya, disimpan pada suhu ruang terkendali hingga 25°C.

PENGUJIAN	METODE	SPESIFIKASI	HASIL
Pemerian	-	Serbuk hablur warna putih	Memenuhi syarat
Identifikasi	Spektrofotometri inframerah	Sesuai baku primer *Salicylic acid* USPRS	Memenuhi syarat
	Kromatografi cair kinerja tinggi	- Kromatogram pelarut tidak menunjukkan puncak dengan waktu retensi yang sama dengan larutan uji dan baku - Waktu retensi puncak utama pada kromatogram larutan uji sesuai dengan larutan baku	Memenuhi syarat
Susut pengeringan	Gravimetri	≤ 0,5%	0,02% (n = 3; SD = 0,0002%)
Sisa pemijaran	Gravimetri	≤ 0,05%	0,04% (n=3; SD = 0,01%)
Uji kemurnian	Kromatografi cair kinerja tinggi	-	Cemaran total = 0,72%
Kadar yang ditetapkan (*assigned value*) 99,22%, *U* = 0,82%, k=2			

Kepala Pusat Pengembangan Pengujian Obat dan Makanan Nasional
u.b. Ketua Tim Pengembangan Baku Pembanding Kimia

BADANPOM RI

Atiek Supardiati Eka S., S.Si., Apt., MKM
Tanggal adopsi : 14 Desember 2023

Versi 1

BEBAS GRATIFIKASI

Lampiran 3. Sertifikat Analisis Etanol P.A

Certificate of Analysis

1.00983.0000 Ethanol absolute for analysis EMSURE® ACS,ISO,Reag. Ph Eur
Batch I1294283

	Spec. Values		Batch Values	
Purity (GC)	≥ 99.9	%	99.9	%
Identity (IR)	conforms		conforms	
Appearance	conforms		conforms	
Color	≤ 10	Hazen	< 5	Hazen
Solubility in water	conforms		conforms	
Acidity or alkalinity	≤ 30	ppm	≤ 30	ppm
Titrable acid	≤ 0.0002	meq/g	0.0001	meq/g
Titrable base	≤ 0.0002	meq/g	< 0.0002	meq/g
Density (d 20 °C/20 °C)	0.790 - 0.793		0.791	
UV absorption	conforms		conforms	
Aldehydes (as Acetaldehyd)	≤ 0.001	%	≤ 0.001	%
Fusel oils	conforms		conforms	
Substances reducing potassium permanganate (as O)	≤ 0.0002	%	≤ 0.0002	%
Substances reducing permanganate (ACS)	conforms		conforms	
Carbonyl compounds (as CO)	≤ 0.003	%	≤ 0.003	%
Readily carbonizable substances	conforms		conforms	
Acetone, Isopropyl Alcohol (ACS)	conforms		conforms	
Acetone (GC)	≤ 0.001	%	< 0.001	%
Ethylmethylketone (GC)	≤ 0.02	%	< 0.01	%
Isoamyl alcohol (GC)	≤ 0.05	%	< 0.01	%
2-Propanol (GC)	≤ 0.01	%	< 0.01	%
Higher alcohols (GC)	≤ 0.01	%	< 0.01	%
Volatile impurities (GC) (Acetaldehyde and Acetal)	≤ 10	ppm	< 10	ppm
Volatile impurities (GC) (Benzene)	≤ 2	ppm	< 1	ppm
Volatile impurities (GC) (Methanol)	≤ 100	ppm	< 50	ppm
Volatile impurities (GC) (Total of other impurities)	≤ 300	ppm	< 100	ppm
Volatile impurities (GC) (disregard limit)	≤ 9	ppm	9	ppm
Chloride (Cl)	≤ 0.3	ppm	< 0.1	ppm
Nitrate (NO_3)	≤ 0.3	ppm	< 0.1	ppm
Phosphate (PO_4)	≤ 0.3	ppm	< 0.1	ppm
Sulfate (SO_4)	≤ 0.3	ppm	< 0.1	ppm
Ag (Silver)	≤ 0.000002	%	≤ 0.000002	%
Al (Aluminium)	≤ 0.00005	%	≤ 0.00005	%
As (Arsenic)	≤ 0.000002	%	≤ 0.000002	%
Au (Gold)	≤ 0.000002	%	≤ 0.000002	%
Ba (Barium)	≤ 0.00001	%	≤ 0.00001	%
Be (Beryllium)	≤ 0.000002	%	≤ 0.000002	%
Bi (Bismuth)	≤ 0.000002	%	≤ 0.000002	%
Ca (Calcium)	≤ 0.00005	%	≤ 0.00005	%

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

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

Dipindai dengan CamScanner

Lampiran 4. Empat Sampel Penelitian



Lampiran 5. Analisis Kualitatif Sampel dengan $FeCL_3$

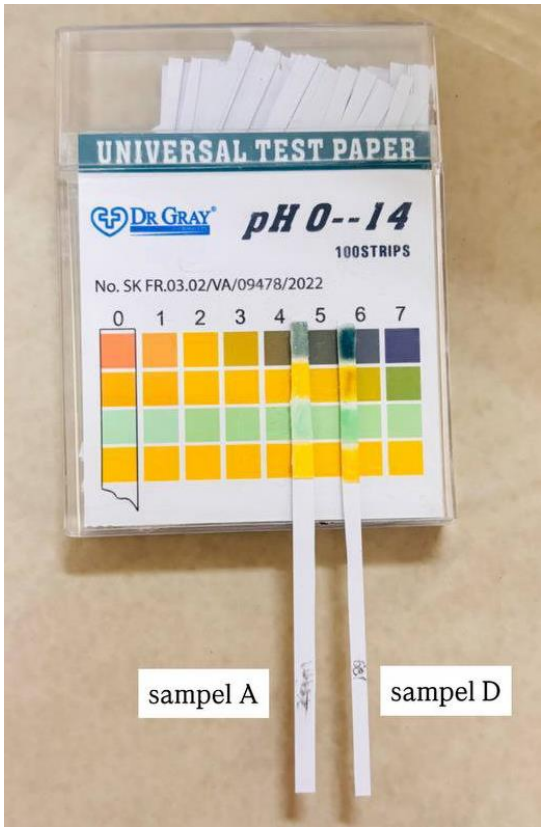


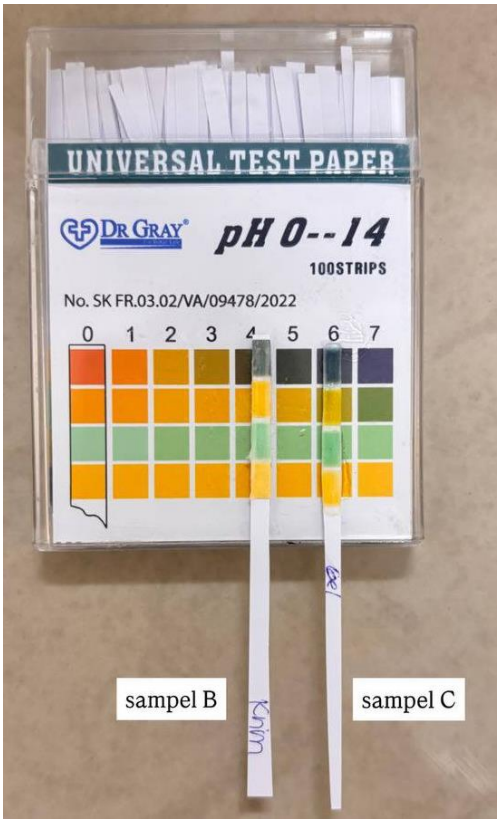
Lampiran 6. Uji Stabilitas *Cycling test* pada Sampel





Lampiran 7. Uji pH pada Sampel





Lampiran 8. Hasil Sentrifugasi Sampel

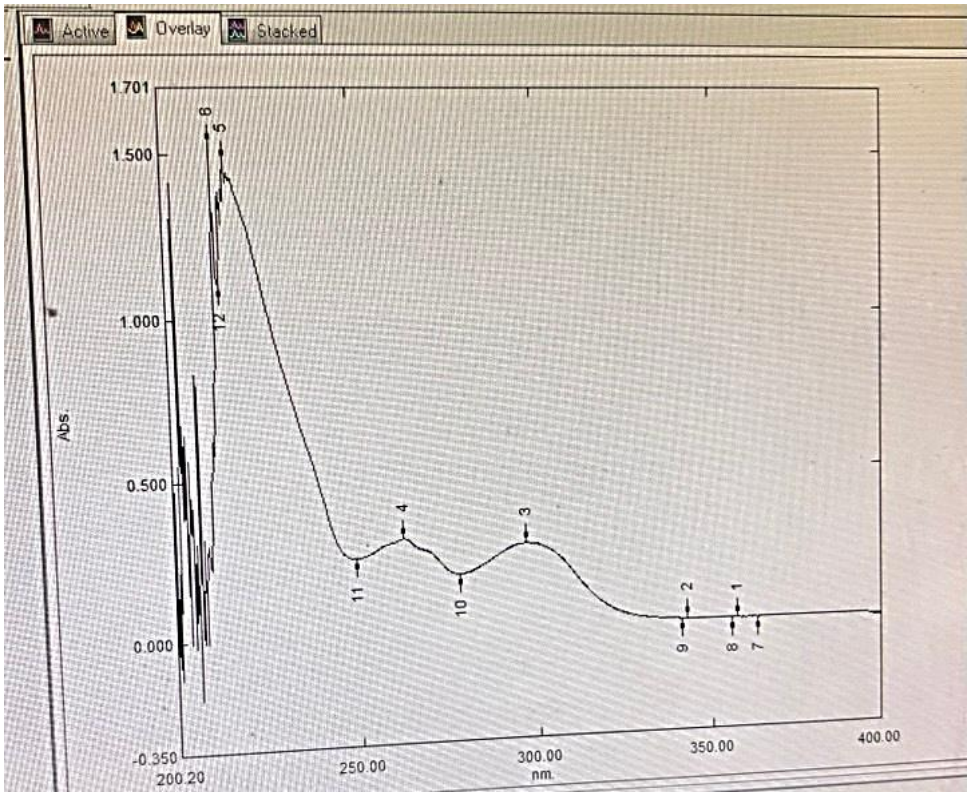




Lampiran 9. Spektrum Sampel A

Peak Pick

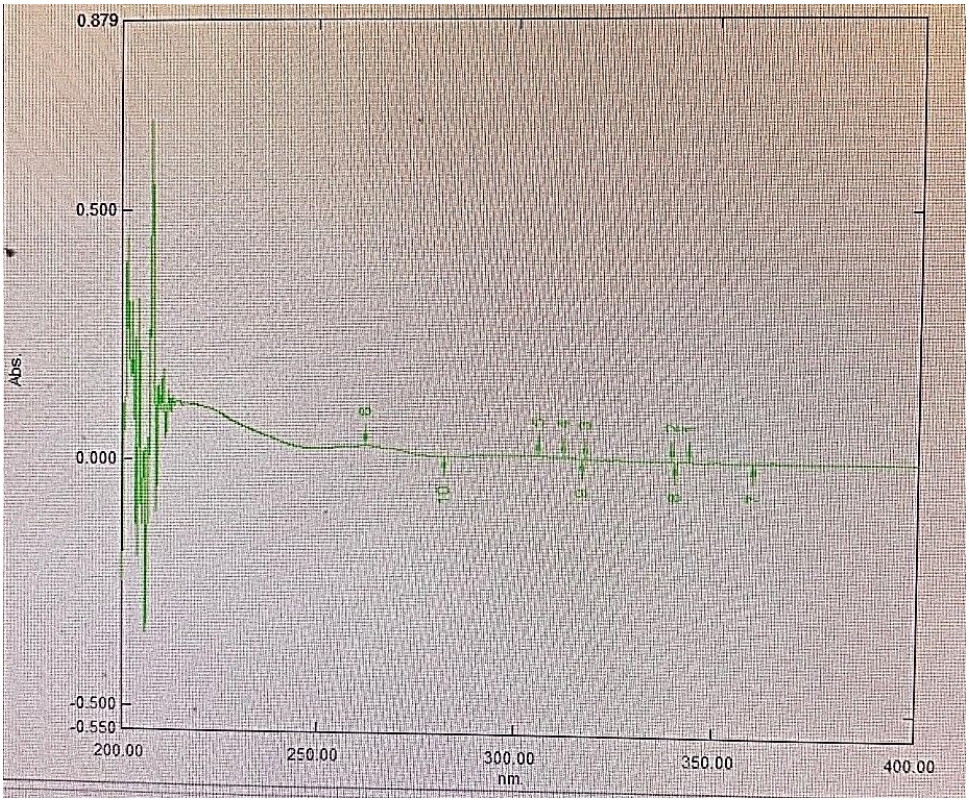
No.	P/V	Wavelength nm.	Abs.	Description
1		357.40	0.010	
2		342.80	0.013	
3		296.80	0.277	
4		262.20	0.304	
5		216.60	1.484	
6		213.40	1.530	



Lampiran 10. Spektrum Sampel B

Peak Pick

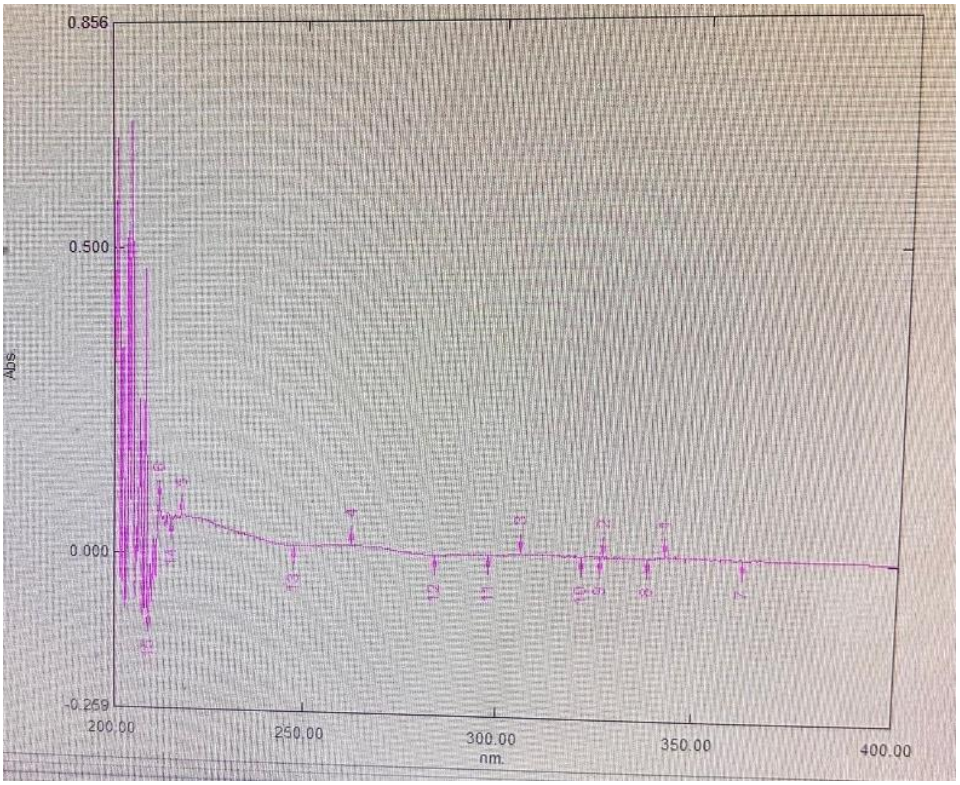
No.	P/V	Wavelength nm.	Abs.	Description
1		344.00	0.003	
2		339.80	0.004	
3		318.00	0.006	
4		312.60	0.009	
5		306.00	0.013	
6		262.00	0.030	



Lampiran 11. Spektrum Sampel C

Peak Pick

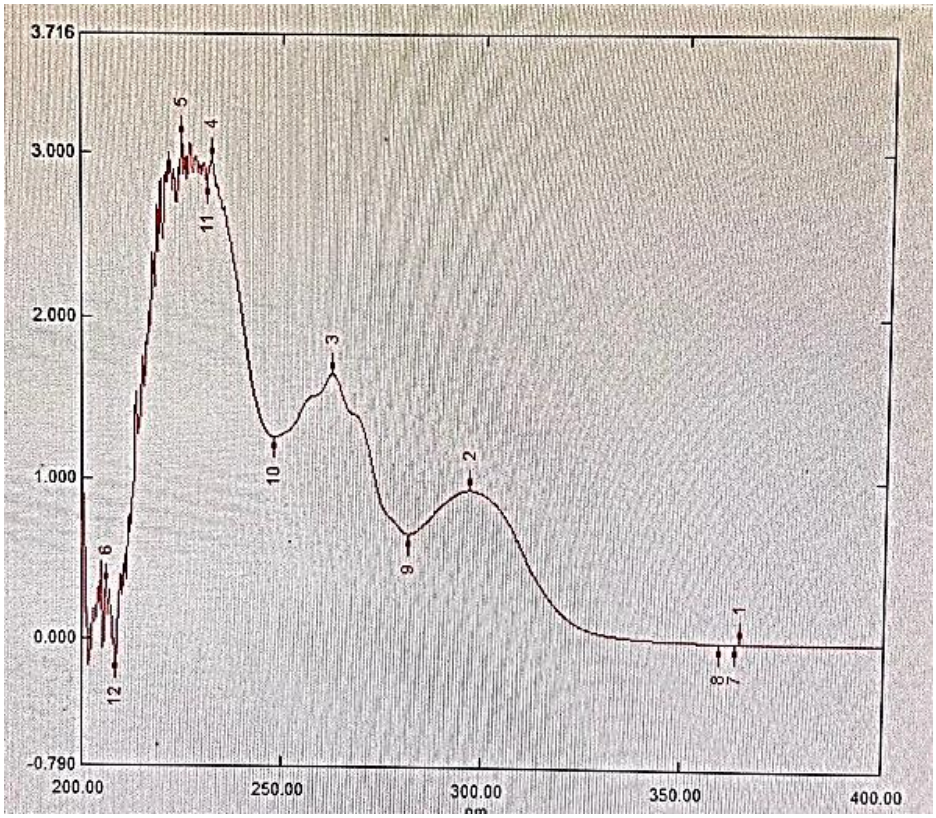
No.	P/V	Wavelength nm.	Abs.	Description
1		342.60	0.009	
2		327.00	0.008	
3		306.20	0.009	
4		262.40	0.019	
5		217.60	0.064	
6		211.80	0.088	



Lampiran 12. Spektrum Sampel D

Peak Pick

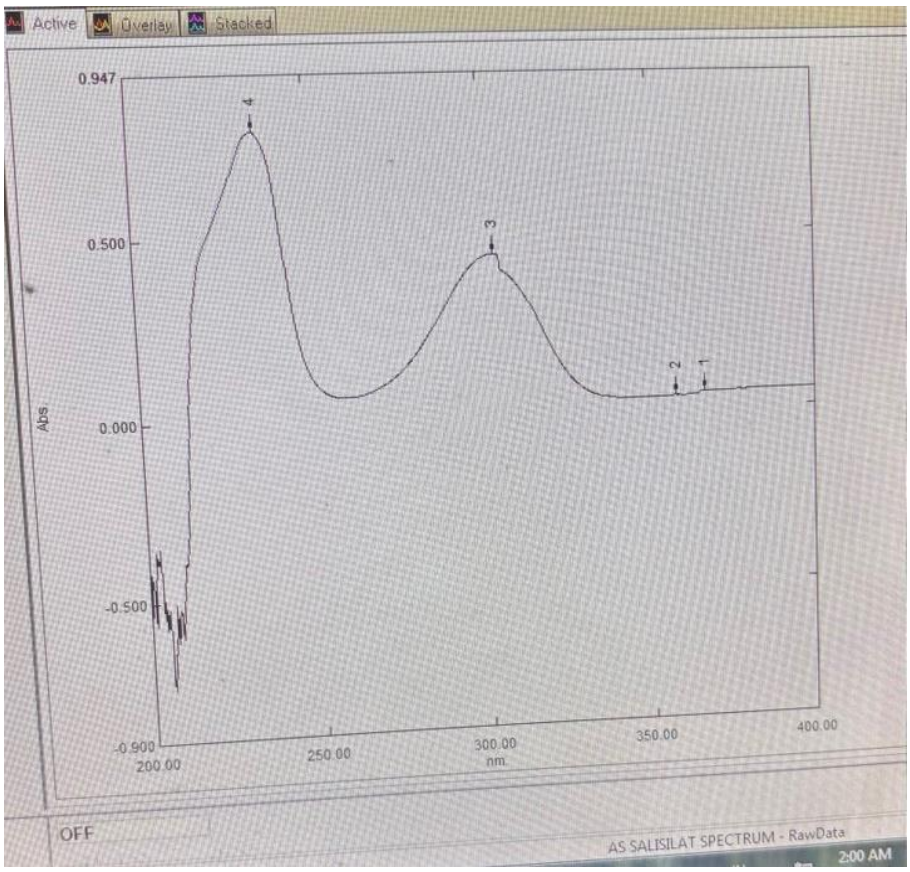
No.	P/V	Wavelength nm.	Abs.	Description
1		364.60	0.009	
2		297.00	0.941	
3		262.40	1.660	
4		232.20	2.964	
5		225.00	3.085	
6		205.80	0.334	



Lampiran 13. Spektrum Panjang Gelombang Asam Salisilat Standar

Peak Pick

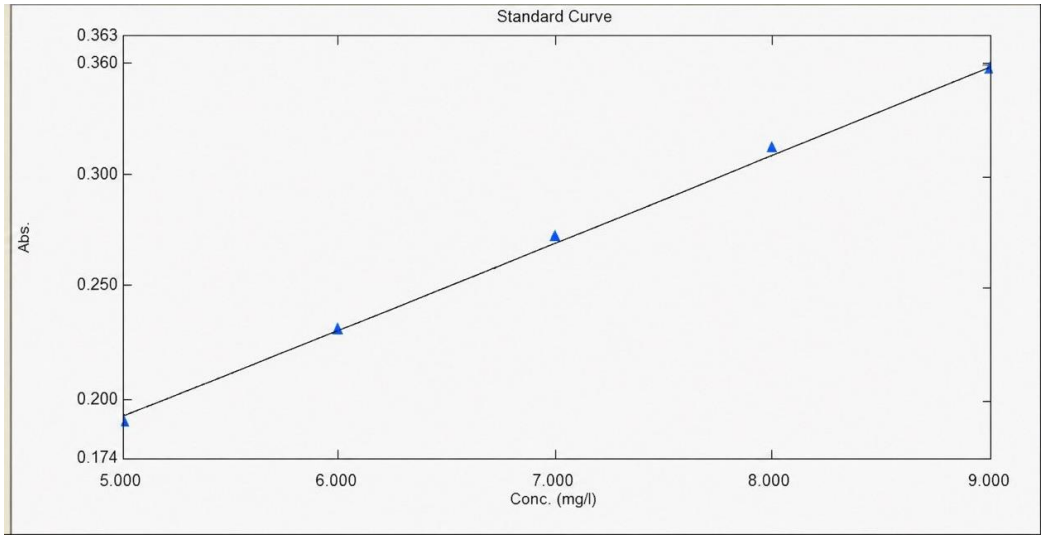
No.	P/V	Wavelength nm.	Abs.	Description
1		366.60	0.046	
2		357.60	0.037	
3		303.60	0.450	
4		235.00	0.793	



Lampiran 14. Data Absorbansi Larutan Kurva Baku

Standard Table - [Active]

	Sample ID	Type	Ex	Conc	WL235.0	Wgt.Factor	Comments
1	std 5 ppm	Std-Repeat		5.000	0.190	1.000	
2	std 5 ppm-2	Std-Repeat		5.000	0.190	1.000	
3	std 5 ppm-3	Std-Repeat		5.000	0.191	1.000	
4	std 5 ppm-Avg	Average		5.000	0.190	1.000	Avg of preceding 3 Samples
5	std 6 ppm	Std-Repeat		6.000	0.231	1.000	
6	std 6 ppm-2	Std-Repeat		6.000	0.232	1.000	
7	std 6 ppm-3	Std-Repeat		6.000	0.231	1.000	
8	std 6 ppm-Avg	Average		6.000	0.231	1.000	Avg of preceding 3 Samples
9	std 7 ppm	Std-Repeat		7.000	0.272	1.000	
10	std 7 ppm-2	Std-Repeat		7.000	0.271	1.000	
11	std 7 ppm-3	Std-Repeat		7.000	0.271	1.000	
12	std 7 ppm-Avg	Average		7.000	0.271	1.000	Avg of preceding 3 Samples
13	std 8 ppm	Std-Repeat		8.000	0.310	1.000	
14	std 8 ppm-2	Std-Repeat		8.000	0.310	1.000	
15	std 8 ppm-3	Std-Repeat		8.000	0.311	1.000	
16	std 8 ppm-Avg	Average		8.000	0.310	1.000	Avg of preceding 3 Samples
17	std 9 ppm	Std-Repeat		9.000	0.360	1.000	



Lampiran 15. Data Absorbansi Sampel

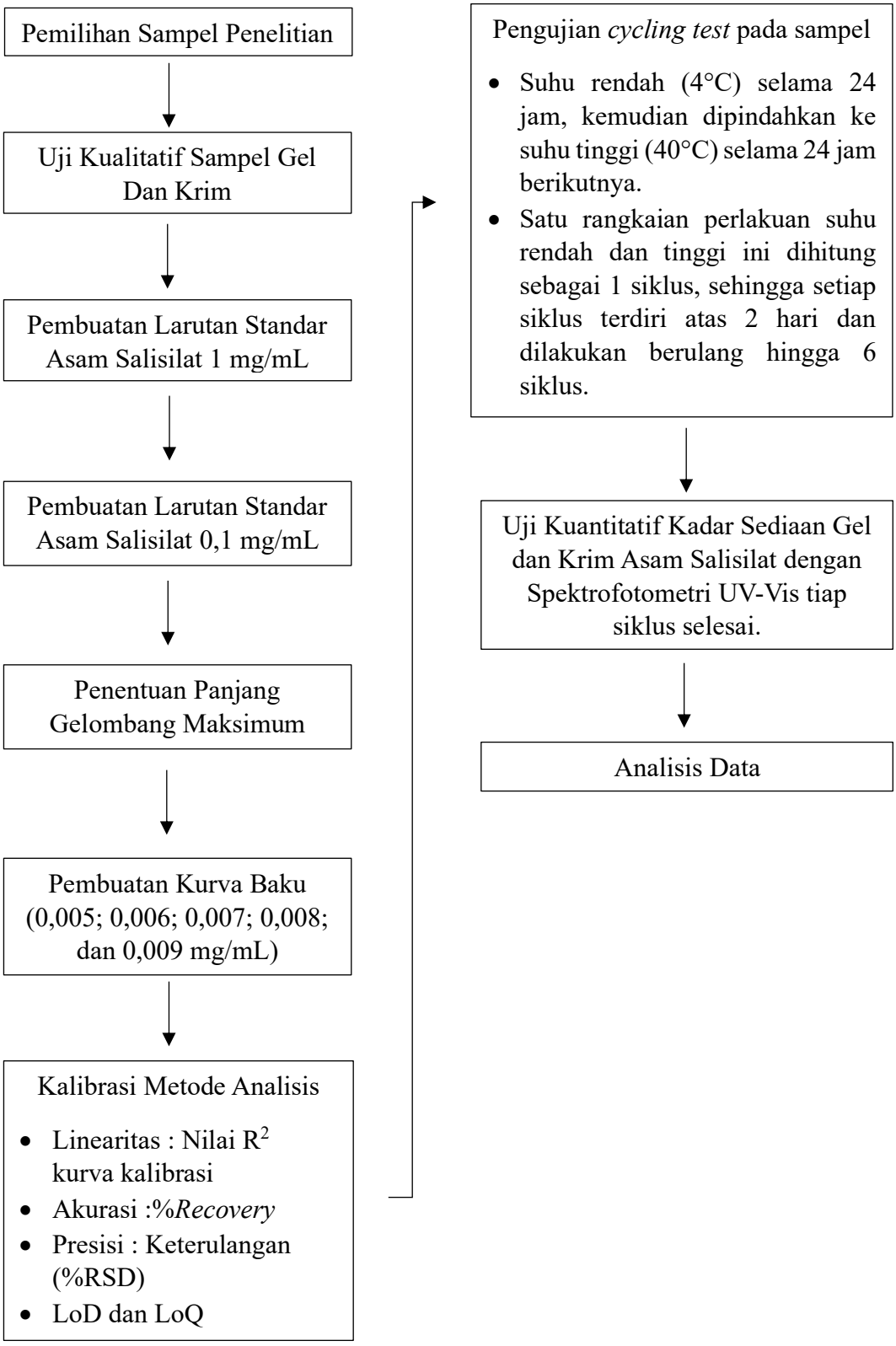
Sample Table - [Active]

	Sample ID	Type	Ex	Conc	WL235.0	Comments
1	smpl krim	Unk-Repeat			0.732	
2	smpl krim-2	Unk-Repeat			0.731	
3	smpl krim-3	Unk-Repeat			0.731	
4	smpl krim-Avg	Average		19.017	0.732	Avg of preceding 3 Samples
5	smpl gel	Unk-Repeat			0.699	
6	smpl gel-2	Unk-Repeat			0.699	
7	smpl gel-3	Unk-Repeat			0.698	
8	smpl gel-Avg	Average		18.165	0.699	Avg of preceding 3 Samples
9	krim siklus 2 (1)	Unk-Repeat			0.716	
10	krim siklus 2 (1)-2	Unk-Repeat			0.716	
11	krim siklus 2 (1)-3	Unk-Repeat			0.718	
12	krim siklus 2 (1)-Avg	Average		18.625	0.716	Avg of preceding 3 Samples
13	krim siklus 3	Unk-Repeat			0.677	
14	krim siklus 3-2	Unk-Repeat			0.677	
15	krim siklus 3-3	Unk-Repeat			0.677	
16	krim siklus 3-Avg	Average		17.600	0.677	Avg of preceding 3 Samples
17	gel siklus 1	Unk-Repeat			0.651	
18	gel siklus 1-2	Unk-Repeat			0.652	
19	gel siklus 1-3	Unk-Repeat			0.651	
20	gel siklus 1-Avg	Average		16.933	0.652	Avg of preceding 3 Samples
21	gel siklus 2 (2)	Unk-Repeat			0.584	
22	gel siklus 2 (2)-2	Unk-Repeat			0.585	
23	gel siklus 2 (2)-3	Unk-Repeat			0.587	
24	gel siklus 2 (2)-Avg	Average		15.208	0.585	Avg of preceding 3 Samples
25	gel siklus 3	Unk-Repeat			0.573	
26	gel siklus 3-2	Unk-Repeat			0.574	
27	gel siklus 3-3	Unk-Repeat			0.574	
28	gel siklus 3-Avg	Average		14.902	0.574	Avg of preceding 3 Samples
29	krim siklus 3 (1)	Unk-Repeat			0.666	
30	krim siklus 3 (1)-2	Unk-Repeat			0.666	
31	krim siklus 3 (1)-3	Unk-Repeat			0.667	
32	krim siklus 3 (1)-Avg	Average		17.315	0.666	Avg of preceding 3 Samples
33						

Sample Table - (Active)

	Sample ID	Type	Ex	Conc	WL235.0	Comments
33	Gel siklus 4	Unk-Repeat			0.556	
34	Gel siklus 4-2	Unk-Repeat			0.556	
35	Gel siklus 4-3	Unk-Repeat			0.556	
36	Gel siklus 4-Avg	Average		14.444	0.556	Avg of preceding 3 Samples
37	krim siklus 4 (1)	Unk-Repeat			0.651	
38	krim siklus 4 (1)-2	Unk-Repeat			0.651	
39	krim siklus 4 (1)-3	Unk-Repeat			0.652	
40	krim siklus 4 (1)-Avg	Average		16.932	0.652	Avg of preceding 3 Samples
41	gel siklus 5	Unk-Repeat			0.550	
42	gel siklus 5-2	Unk-Repeat			0.550	
43	gel siklus 5-3	Unk-Repeat			0.550	
44	gel siklus 5-Avg	Average		14.284	0.550	Avg of preceding 3 Samples
45	krim siklus 5,	Unk-Repeat			0.648	
46	krim siklus 5, -2	Unk-Repeat			0.649	
47	krim siklus 5, -3	Unk-Repeat			0.648	
48	krim siklus 5, -Avg	Average		16.844	0.648	Avg of preceding 3 Samples
49	gel siklus 6	Unk-Repeat			0.535	
50	gel siklus 6-2	Unk-Repeat			0.535	
51	gel siklus 6-3	Unk-Repeat			0.535	
52	gel siklus 6-Avg	Average		13.893	0.535	Avg of preceding 3 Samples
53	krim siklus 6	Unk-Repeat			0.639	
54	krim siklus 6-2	Unk-Repeat			0.639	
55	krim siklus 6-3	Unk-Repeat			0.640	
56	krim siklus 6-Avg	Average		16.617	0.639	Avg of preceding 3 Samples
57						

Lampiran 16. Alur Penelitian



Lampiran 17. Perhitungan Larutan Standar Asam Salisilat

- Larutan Standar 1 mg/mL

  1 mg/mL = 1000 mg/L

  1 mg/mL = 50 mg/0,05 L

  = (50 mg/50 mL)

- Larutan Standar 1 mg/mL ke 0,1 mg/mL

  V_1 x M_1 = V_2 x M_2

  $V_1 = \frac{V2\ X\ M2}{M1}$

  $V_1 = \frac{50\ mL\ X\ 0{,}1\ mg/mL}{1\ mg/mL}$

  = 5 mL

Lampiran 18. Perhitungan Panjang Gelombang Maksimum Larutan Asam Salisilat

- Larutan Standar 0,1 mg/mL ke 0,015 mg/mL

  V_1 x M_1 = V_2 x M_2

  $V_1 = \frac{V2\ X\ M2}{M1}$

  $V_1 = \frac{25\ mL\ X\ 0{,}015\ mg/mL}{0{,}1\ mg/mL}$

  = 3,75 mL

Lampiran 19. Perhitungan Konsentrasi Larutan Kurva Baku Asam Salisilat

- Larutan 0,005 mg/mL

  $V_1 \times M_1 = V_2 \times M_2$

  $V_1 = \frac{10\ mL\ X\ 0{,}005\ mg/mL}{0{,}1\ mg/mL}$

  = 0,5 mL

- Larutan 0,006 mg/mL

  $V_1 \times M_1 = V_2 \times M_2$

  $V_1 = \frac{10\ mL\ X\ 0{,}006\ mg/mL}{0{,}1\ mg/mL}$

  = 0,6 mL

- Larutan 0,007 mg/mL

  $V_1 \times M_1 = V_2 \times M_2$

  $V_1 = \frac{10\ mL\ X\ 0{,}007\ mg/mL}{0{,}1\ mg/mL}$

  = 0,7 mL

- Larutan 0,008 mg/mL

  $V_1 \times M_1 = V_2 \times M_2$

  $V_1 = \frac{10\ mL\ X\ 0{,}008\ mg/mL}{0{,}1\ mg/mL}$

  = 0,8 mL

- Larutan 0,009 mg/mL

  $V_1 \times M_1 = V_2 \times M_2$

  $V_1 = \frac{10\ mL\ X\ 0{,}009\ mg/mL}{0{,}1\ mg/mL}$

  = 0,9 mL

Lampiran 20. Perhitungan Nilai Linearitas

No	Konsentrasi (mg/mL)	Absorbansi	Rata-rata	X^2	Y^2	XY
1	0,005	0,190 0,190 0,191	0,190	0,000025	0,0361	0,00095
2	0,006	0,231 0,232 0,231	0,231	0,000036	0,053361	0,001386
3	0,007	0,272 0,271 0,271	0,271	0,000049	0,073441	0,001897
4	0,008	0,310 0,310 0,311	0,310	0,000064	0,0961	0,00248
5	0,009	0,360 0,361 0,360	0,360	0,000081	0,1296	0,00324
∑	0,035	1,362		0,000255	0,388602	0,009953

Perhitungan : $\frac{n\,x\,(\sum XY)-(\sum X)(\sum Y)}{\sqrt{n(\sum X^2)-(\sum X)^2}\,X\,\sqrt{n(\sum Y^2)-(\sum Y)^2}}$

$$: \frac{5\,x\,(0{,}009953)-(0{,}035)(1{,}362)}{\sqrt{((5\,x\,0{,}000255)-(0{,}035)^2}\,x\,\sqrt{((5x0{,}388602)-(1{,}362)^2}}$$

$$: \frac{0{,}002095}{0{,}0020972}$$

r : 0,9989509823

Lampiran 21. Perhitungan Nilai Akurasi

No	Konsentrasi (mg/mL)	Absorbansi	Konsentrasi Terukur	% Recovery	Rata-rata % Recovery
1.	0,005	0,190	0,005033	100,66	100,82%
		0,190	0,005033	100,66	
		0,191	0,005058	101,16	
2.	0,007	0,272	0,006999	99,85714286	99,62%
		0,271	0,006966	99,51428571	
		0,271	0,006966	99,51428571	
3.	0,009	0,360	0,009090	101	101,08%
		0,361	0,009114	101,2666667	
		0,360	0,009090	101	

Persamaan Regresi Linear (y) = 41,9x – 0,0209

$$\% \text{ Recovery} = \frac{Konsentrasi\ yang\ diperoleh}{Konsentrasi\ sebenarnya}\ x\ 100\%$$

Perhitungan :

1. Konsentrasi 0,005 mg/mL

- Replikasi I

  y = 41,9x – 0,0209

  $x = \frac{0{,}190+0{,}0209}{41{,}9}$

  x = 0,005033 mg/mL

  $\% \text{ Recovery} = \frac{0{,}005033\ mg/mL}{0{,}005\ mg/mL}\ x\ 100\%$

  = 100,66 %

- Replikasi II

  y = 41,9x – 0,0209

  $x = \frac{0{,}190+0{,}0209}{41{,}9}$

  x = 0,005033 mg/mL

$$\% \text{ Recovery} = \frac{0{,}005033\ mg/mL}{0{,}005\ mg/mL}\ x\ 100\%$$

$$= 100{,}66\ \%$$

- Replikasi III

$$y = 41{,}9x - 0{,}0209$$

$$x = \frac{0{,}191+0{,}0209}{41{,}9}$$

$$x = 0{,}005058 \text{ mg/mL}$$

$$\% \text{ Recovery} = \frac{0{,}005058 \text{ mg/mL}}{0{,}005\ mg/\ mL}\ x\ 100\%$$

$$= 101{,}16\ \%$$

2. Konsentrasi 0,007 mg/mL

- Replikasi I

$$y = 41{,}9x - 0{,}0209$$

$$x = \frac{0{,}272+0{,}0209}{41{,}9}$$

$$x = 0{,}00699 \text{ mg/mL}$$

$$\% \text{ Recovery} = \frac{0{,}00699\ mg/mL}{0{,}007\ mg/mL}\ x\ 100\%$$

$$= 99{,}85\ \%$$

- Replikasi II

$$y = 41{,}9x - 0{,}0209$$

$$x = \frac{0{,}271+0{,}0209}{41{,}9}$$

$$x = 0{,}006966 \text{ mg/mL}$$

$$\% \text{ Recovery} = \frac{0{,}006966\ mg/mL}{0{,}007\ mg/mL}\ x\ 100\%$$

$$= 99{,}51\ \%$$

- Replikasi III

$$y = 41{,}9x - 0{,}0209$$

$$x = \frac{0{,}271+0{,}0209}{41{,}9}$$

$$x = 0{,}006966 \text{ mg/mL}$$

$$\% \text{ Recovery} = \frac{0{,}006966\ mg/mL}{0{,}007\ mg/mL}\ x\ 100\%$$

$$= 99{,}51\ \%$$

3. Konsentrasi 0,009 mg/mL

- Replikasi I

  y = 41,9x – 0,0209

  $x = \frac{0,360+0,0209}{41,9}$

  x = 0,009090 mg/mL

  % Recovery = $\frac{0,009090\ mg/mL}{0,009\ mg/mL}\ x\ 100\%$

  = 101%

- Replikasi II

  y = 41,9x – 0,0209

  $x = \frac{0,361+0,0209}{41,9}$

  x = 0,009114 mg/mL

  % Recovery = $\frac{0,009114\ mg/mL}{0,009\ mg/mL}\ x\ 100\%$

  = 101,26 %

- Replikasi III

  y = 41,9x – 0,0209

  $x = \frac{0,360+0,0209}{41,9}$

  x = 0,009090 mg/mL

  % Recovery = $\frac{0,009090\ \text{mg/mL}}{0,009\ mg/mL}\ x\ 100\%$

  = 101 %

Lampiran 22. Perhitungan Nilai Presisi

Konsentrasi (mg/mL)	Absorbansi	Rata-rata Absorbansi	SD	%RSD
0,009	0,360	0,360	0,00477	1,33 %
	0,361			
	0,360			
	0,352			
	0,367			
	0,360			

Perhitungan :

- SD $= \sqrt{\frac{\sum(X-\overline{X})^2}{n-1}}$

  $= 0{,}00477$

- %RSD $= \frac{Standar\ Deviasi}{Rata-rata}\ x\ 100\%$

  %RSD $= \frac{0{,}00477}{0{,}360}\ x\ 100\%$

  $= 1{,}33\%$

Lampiran 23. Perhitungan Nilai LoD dan LoQ

No	Konsentrasi	Absorbansi (Y)	Konsentrasi Terukur (Y')	(Y-Y')	$(Y-Y')^2$
1	0,005	0,190	0,1886	0,0014	0,00000196
2	0,006	0,231	0,2305	0,0005	0,00000025
3	0,007	0,271	0,2724	-0,0014	0,00000196
4	0,008	0,310	0,3143	-0,0043	0,00001849
5	0,009	0,360	0,3562	0,0038	0,00001444
Jumlah					0,00003710
SD					0,00352
LoD					0,2520
LoQ					0,8400

PERHITUNGAN

1. Perhitungan Nilai Y' :

- Konsentrasi 0,005 mg/mL
  y = 41,9x – 0,0209
  y = 41,9(0,005) - 0,0209
  y = 0,1886

- Konsentrasi 0,006 mg/mL
  y = 41,9x – 0,0209
  y = 41,9(0,006) - 0,0209
  y = 0,2305

- Konsentrasi 0,007 mg/mL
  y = 41,9x – 0,0209
  y = 41,9(0,007) - 0,0209
  y = 0,2724

- Konsentrasi 0,008 mg/mL
  y = 41,9x – 0,0209
  y = 41,9(0,008) - 0,0209
  y = 0,3143

- Konsentrasi 0,009 mg/mL
  y = 41,9x – 0,0209
  y = 41,9(0,009) - 0,0209
  y = 0,3562

2. Perhitungan LoD dan LoQ

- LoD

  $$\text{LoD} = \frac{3\ x\ SD}{Slope}$$
  $$= \frac{3\ x\ 0{,}00352}{41{,}9}$$
  = 0,000252 mg/mL

- LoQ

  $$\text{LoQ} = \frac{10\ x\ SD}{Slope}$$
  $$= \frac{10\ x\ 0{,}00352}{41{,}9}$$
  = 0,000840 mg/mL

Lampiran 24. Perhitungan Kadar Asam Salisilat pada Sampel Krim A

$$\% \text{ Kadar} = x \ \frac{Konsentrasi\left(\frac{mg}{mL}\right) x\ Volume\ Total\ Sampel\ (mL)\ x\ FP}{Berat\ Sampel\ (mg)}\ x\ 100\%$$

- **Siklus 0**
- Replikasi I

y = 41,9x – 0,0209

$$x = \frac{0,732 + 0,0209}{41,9}$$

$$x = \frac{0,7529}{41,9} = 0,01797 \text{ mg/mL}$$

$$\% \text{ Kadar} = \frac{0,01797\ x\ 25\ x\ 104}{3000}\ x\ 100\%$$

= 1,55%

- Replikasi II

y = 41,9x – 0,0209

$$x = \frac{0,731 + 0,0209}{41,9}$$

$$x = \frac{0,7519}{41,9} = 0,01794 \text{ mg/mL}$$

$$\% \text{ Kadar} = \frac{0,01794\ x\ 25\ x\ 104}{3000}\ x\ 100\%$$

= 1,55%

- Replikasi III

y = 41,9x – 0,0209

$$x = \frac{0,731 + 0,0209}{41,9}$$

$$x = \frac{0,7519}{41,9} = 0,01794 \text{ mg/mL}$$

$$\% \text{ Kadar} = \frac{0,01794\ x\ 25\ x\ 104}{3000}\ x\ 100\%$$

= 1,55%

Rata-rata kadar = $\frac{1,55+1,55+1,55}{3} = 1,55\%$

- **Siklus 1**
- Replikasi I

y = 41,9x – 0,0209

$$x = \frac{0,716 + 0,0209}{41,9}$$

$$x = \frac{0,7369}{41,9} = 0,01758 \text{ mg/mL}$$

% Kadar = $\frac{0{,}01758\ x\ 25\ x\ 104}{3000}\ x\ 100\%$

= 1,54%

- Replikasi II

y = 41,9x – 0,0209

x = $\frac{0{,}716 + 0{,}0209}{41{,}9}$

x = $\frac{0{,}7369}{41{,}9}$ = 0,01758 mg/mL

% Kadar = $\frac{0{,}01758\ x\ 25\ x\ 104}{3000}\ x\ 100\%$

= 1,54%

- Replikasi III

y = 41,9x – 0,0209

x = $\frac{0{,}718 + 0{,}0209}{41{,}9}$

x = $\frac{0{,}7389}{41{,}9}$ = 0,01763 mg/mL

% Kadar = $\frac{0{,}01763\ x\ 25\ x\ 104}{3000}\ x\ 100\%$

= 1,52%

Rata-rata kadar = $\frac{1{,}54+1{,}54+1{,}52}{3} = 1{,}53\%$

- **Siklus 2**
- Replikasi I

y = 41,9x – 0,0209

x = $\frac{0{,}677 + 0{,}0209}{41{,}9}$

x = $\frac{0{,}6979}{41{,}9}$ = 0,01665 mg/mL

% Kadar = $\frac{0{,}01665\ x\ 25\ x\ 104}{3000}\ x\ 100\%$

= 1,44%

- Replikasi II

y = 41,9x – 0,0209

x = $\frac{0{,}677 + 0{,}0209}{41{,}9}$

x = $\frac{0{,}6979}{41{,}9}$ = 0,01665 mg/mL

% Kadar = $\frac{0{,}01665\ x\ 25\ x\ 104}{3000}\ x\ 100\%$

= 1,44%

- Replikasi III

y = 41,9x – 0,0209

x = $\frac{0{,}677 + 0{,}0209}{41{,}9}$

x = $\frac{0{,}6979}{41{,}9}$ = 0,01665 mg/mL

% Kadar = $\frac{0{,}01665\ x\ 25\ x\ 104}{3000}\ x\ 100\%$

= 1,44%

Rata-rata kadar = $\frac{1{,}44+1{,}44+1{,}44}{3} = 1{,}44\%$

- **Siklus 3**
- Replikasi I

y = 41,9x – 0,0209

x = $\frac{0{,}666 + 0{,}0209}{41{,}9}$

x = $\frac{0{,}6869}{41{,}9}$ = 0,01639 mg/mL

% Kadar = $\frac{0{,}01639\ x\ 25\ x\ 104}{3000}\ x\ 100\%$

= 1,42%

- Replikasi II

y = 41,9x – 0,0209

x = $\frac{0{,}666 + 0{,}0209}{41{,}9}$

x = $\frac{0{,}6869}{41{,}9}$ = 0,01639 mg/mL

% Kadar = $\frac{0{,}01639\ x\ 25\ x\ 104}{3000}\ x\ 100\%$

= 1,42%

- Replikasi III

y = 41,9x – 0,0209

x = $\frac{0{,}667 + 0{,}0209}{41{,}9}$

x = $\frac{0{,}6879}{41{,}9}$ = 0,01641 mg/mL

% Kadar = $\frac{0{,}01641\ x\ 25\ x\ 104}{3000}\ x\ 100\%$

= 1,42%

Rata-rata kadar = $\frac{1{,}42+1{,}42+1{,}42}{3} = 1{,}42\%$

- **Siklus 4**
- Replikasi I

y = 41,9x – 0,0209

x = $\frac{0{,}651 + 0{,}0209}{41{,}9}$

x = $\frac{0{,}6719}{41{,}9}$ = 0,01603 mg/mL

% Kadar = $\frac{0{,}01603\ x\ 25\ x\ 104}{3000}\ x\ 100\%$

= 1,39%

- Replikasi II

y = 41,9x – 0,0209

x = $\frac{0{,}652 + 0{,}0209}{41{,}9}$

x = $\frac{0{,}6729}{41{,}9}$ = 0,01605 mg/mL

% Kadar = $\frac{0{,}01605\ x\ 25\ x\ 104}{3000}\ x\ 100\%$

= 1,39%

- Replikasi III

y = 41,9x – 0,0209

x = $\frac{0{,}652 + 0{,}0209}{41{,}9}$

x = $\frac{0{,}6729}{41{,}9}$ = 0,01605 mg/mL

% Kadar = $\frac{0{,}01605\ x\ 25\ x\ 104}{3000}\ x\ 100\%$

= 1,39%

Rata-rata kadar = $\frac{1{,}39+1{,}39+1{,}39}{3} = 1{,}39\%$

- **Siklus 5**
- Replikasi I

y = 41,9x – 0,0209

$x = \frac{0,648 + 0,0209}{41,9}$

$x = \frac{0,6689}{41,9}$ = 0,01596 mg/mL

% Kadar = $\frac{0,01596\ x\ 25\ x\ 104}{3000}\ x\ 100\%$

= 1,38%

- Replikasi II

y = 41,9x – 0,0209

$x = \frac{0,649 + 0,0209}{41,9}$

$x = \frac{0,6699}{41,9}$ = 0,01598 mg/mL

% Kadar = $\frac{0,01598\ x\ 25\ x\ 104}{3000}\ x\ 100\%$

= 1,38%

- Replikasi III

y = 41,9x – 0,0209

$x = \frac{0,648 + 0,0209}{41,9}$

$x = \frac{0,6689}{41,9}$ = 0,01596 mg/mL

% Kadar = $\frac{0,01596\ x\ 25\ x\ 104}{3000}\ x\ 100\%$

= 1,38%

Rata-rata kadar = $\frac{1,38+1,38+1,38}{3} = 1,38\%$

- **Siklus 6**
- Replikasi I

y = 41,9x – 0,0209

$x = \frac{0,639 + 0,0209}{41,9}$

$x = \frac{0,6599}{41,9}$ = 0,01574 mg/mL

% Kadar = $\frac{0,01574\ x\ 25\ x\ 104}{3000}\ x\ 100\%$

= 1,36%

- Replikasi II

y = 41,9x – 0,0209

$x = \frac{0,639 + 0,0209}{41,9}$

$x = \frac{0,6599}{41,9}$ = 0,01574 mg/mL

% Kadar = $\frac{0,01574 \; x \; 25 \; x \; 104}{3000} \; x \; 100\%$

= 1,36%

- Replikasi III

y = 41,9x – 0,0209

$x = \frac{0,640 + 0,0209}{41,9}$

$x = \frac{0,6609}{41,9}$ = 0,01577 mg/mL

% Kadar = $\frac{0,01577 \; x \; 25 \; x \; 104}{3000} \; x \; 100\%$

= 1,36%

Rata-rata kadar = $\frac{1,36+1,36+1,36}{3} = 1,36\%$

Lampiran 25. Perhitungan Kadar Asam Salisilat pada Sampel Gel D

$$\% \text{ Kadar} = x \ \frac{Konsentrasi\left(\frac{mg}{mL}\right) x\ Volume\ Total\ Sampel\ (mL)\ x\ FP}{Berat\ Sampel\ (mg)}\ x\ 100\%$$

- **Siklus 0**
- Replikasi I

y = 41,9x – 0,0209

$$x = \frac{0{,}699 + 0{,}0209}{41{,}9}$$

$$x = \frac{0{,}7199}{41{,}9} = 0{,}01718 \text{ mg/mL}$$

$$\% \text{ Kadar} = \frac{0{,}01718\ x\ 25\ x\ 104}{3000}\ x\ 100\%$$

= 1,49%

- Replikasi II

y = 41,9x – 0,0209

$$x = \frac{0{,}699 + 0{,}0209}{41{,}9}$$

$$x = \frac{0{,}7199}{41{,}9} = 0{,}01718 \text{ mg/mL}$$

$$\% \text{ Kadar} = \frac{0{,}01718\ x\ 25\ x\ 104}{3000}\ x\ 100\%$$

= 1,49%

- Replikasi III

y = 41,9x – 0,0209

$$x = \frac{0{,}698 + 0{,}0209}{41{,}9}$$

$$x = \frac{0{,}7189}{41{,}9} = 0{,}01715 \text{ mg/mL}$$

$$\% \text{ Kadar} = \frac{0{,}01715\ x\ 25\ x\ 104}{3000}\ x\ 100\%$$

= 1,48%

Rata-rata kadar = $\frac{1{,}49+1{,}49+1{,}48}{3} = 1{,}48\%$

- **Siklus 1**
- Replikasi I

y = 41,9x – 0,0209

$$x = \frac{0{,}651 + 0{,}0209}{41{,}9}$$

$$x = \frac{0,6719}{41,9} = 0,01603 \text{ mg/mL}$$

$$\% \text{ Kadar} = \frac{0,01603 \; x \; 25 \; x \; 104}{3000} \; x \; 100\%$$

$$= 1,39\%$$

- Replikasi II

$$y = 41,9x - 0,0209$$

$$x = \frac{0,652 + 0,0209}{41,9}$$

$$x = \frac{0,6729}{41,9} = 0,01605 \text{ mg/mL}$$

$$\% \text{ Kadar} = \frac{0,01605 \; x \; 25 \; x \; 104}{3000} \; x \; 100\%$$

$$= 1,39\%$$

- Replikasi III

$$y = 41,9x - 0,0209$$

$$x = \frac{0,651 + 0,0209}{41,9}$$

$$x = \frac{0,6719}{41,9} = 0,01603 \text{ mg/mL}$$

$$\% \text{ Kadar} = \frac{0,01603 \; x \; 25 \; x \; 104}{3000} \; x \; 100\%$$

$$= 1,39\%$$

$$\text{Rata-rata kadar} = \frac{1,39+1,39+1,39}{3} = 1,39\%$$

- **Siklus 2**
- Replikasi I

$$y = 41,9x - 0,0209$$

$$x = \frac{0,584 + 0,0209}{41,9}$$

$$x = \frac{0,6049}{41,9} = 0,01443 \text{ mg/mL}$$

$$\% \text{ Kadar} = \frac{0,01443 \; x \; 25 \; x \; 104}{3000} \; x \; 100\%$$

$$= 1,25\%$$

- Replikasi II

$$y = 41,9x - 0,0209$$

$$x = \frac{0,585 + 0,0209}{41,9}$$

$$x = \frac{0,6059}{41,9} = 0,01446 \text{ mg/mL}$$

$$\% \text{ Kadar} = \frac{0,01446 \; x \; 25 \; x \; 104}{3000} \; x \; 100\%$$

$$= 1,25\%$$

- Replikasi III

$$y = 41,9x - 0,0209$$

$$x = \frac{0,587 + 0,0209}{41,9}$$

$$x = \frac{0,6079}{41,9} = 0,01450 \text{ mg/mL}$$

$$\% \text{ Kadar} = \frac{0,01450 \; x \; 25 \; x \; 104}{3000} \; x \; 100\%$$

$$= 1,25\%$$

$$\text{Rata-rata kadar} = \frac{1,25+1,25+1,25}{3} = 1,25\%$$

- **Siklus 3**
- Replikasi I

$$y = 41,9x - 0,0209$$

$$x = \frac{0,573 + 0,0209}{41,9}$$

$$x = \frac{0,5939}{41,9} = 0,01417 \text{ mg/mL}$$

$$\% \text{ Kadar} = \frac{0,01417 \; x \; 25 \; x \; 104}{3000} \; x \; 100\%$$

$$= 1,22\%$$

- Replikasi II

$$y = 41,9x - 0,0209$$

$$x = \frac{0,574 + 0,0209}{41,9}$$

$$x = \frac{0,5949}{41,9} = 0,01419 \text{ mg/m}$$

$$\% \text{ Kadar} = \frac{0,01419 \; x \; 25 \; x \; 104}{3000} \; x \; 100\%$$

$$= 1,22\%$$

- Replikasi III

$$y = 41,9x - 0,0209$$

$$x = \frac{0,574 + 0,0209}{41,9}$$

$$x = \frac{0,5949}{41,9} = 0,01419 \text{ mg/m}$$

$$\% \text{ Kadar} = \frac{0,01419 \; x \; 25 \; x \; 104}{3000} \; x \; 100\%$$

$$= 1,22\%$$

$$\text{Rata-rata kadar} = \frac{1,22+1,22+1,22}{3} = 1,22\%$$

- **Siklus 4**
- Replikasi I

$$y = 41,9x - 0,0209$$

$$x = \frac{0,556 + 0,0209}{41,9}$$

$$x = \frac{0,5769}{41,9} = 0,01376 \text{ mg/mL}$$

$$\% \text{ Kadar} = \frac{0,01376 \; x \; 25 \; x \; 104}{3000} \; x \; 100\%$$

$$= 1,19\%$$

- Replikasi II

$$y = 41,9x - 0,0209$$

$$x = \frac{0,556 + 0,0209}{41,9}$$

$$x = \frac{0,5769}{41,9} = 0,01376 \text{ mg/mL}$$

$$\% \text{ Kadar} = \frac{0,01376 \; x \; 25 \; x \; 104}{3000} \; x \; 100\%$$

$$= 1,19\%$$

- Replikasi III

$$y = 41,9x - 0,0209$$

$$x = \frac{0,556 + 0,0209}{41,9}$$

$$x = \frac{0,5769}{41,9} = 0,01376 \text{ mg/mL}$$

$$\% \text{ Kadar} = \frac{0,01376 \; x \; 25 \; x \; 104}{3000} \; x \; 100\%$$

$$= 1,19\%$$

$$\text{Rata-rata kadar} = \frac{1,19+1,19+1,19}{3} = 1,19\%$$

- **Siklus 5**
- Replikasi I

y = 41,9x – 0,0209

$x = \frac{0,550 + 0,0209}{41,9}$

$x = \frac{0,5709}{41,9}$ = 0,01362 mg/mL

% Kadar = $\frac{0,01362\ x\ 25\ x\ 104}{3000}\ x\ 100\%$

= 1,18%

- Replikasi II

y = 41,9x – 0,0209

$x = \frac{0,550 + 0,0209}{41,9}$

$x = \frac{0,5709}{41,9}$ = 0,01362 mg/mL

% Kadar = $\frac{0,01362\ x\ 25\ x\ 104}{3000}\ x\ 100\%$

= 1,18%

- Replikasi III

y = 41,9x – 0,0209

$x = \frac{0,550 + 0,0209}{41,9}$

$x = \frac{0,5709}{41,9}$ = 0,01362 mg/mL

% Kadar = $\frac{0,01362\ x\ 25\ x\ 104}{3000}\ x\ 100\%$

= 1,18%

Rata-rata kadar = $\frac{1,18+1,18+1,18}{3} = 1,18\%$

- **Siklus 6**
- Replikasi I

y = 41,9x – 0,0209

$x = \frac{0,535 + 0,0209}{41,9}$

$x = \frac{0,555}{41,9}$ = 0,01326 mg/mL

% Kadar = $\frac{0{,}01326\ x\ 25\ x\ 104}{3000}\ x\ 100\%$

= 1,15%

- Replikasi II

y = 41,9x – 0,0209

x = $\frac{0{,}535 + 0{,}0209}{41{,}9}$

x = $\frac{0{,}555}{41{,}9}$ = 0,01326 mg/mL

% Kadar = $\frac{0{,}01326\ x\ 25\ x\ 104}{3000}\ x\ 100\%$

= 1,15%

- Replikasi III

y = 41,9x – 0,0209

x = $\frac{0{,}535 + 0{,}0209}{41{,}9}$

x = $\frac{0{,}555}{41{,}9}$ = 0,01326 mg/mL

% Kadar = $\frac{0{,}01326\ x\ 25\ x\ 104}{3000}\ x\ 100\%$

= 1,15%

Rata-rata kadar = $\frac{1{,}15+1{,}15+1{,}15}{3} = 1{,}15\%$