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Lampiran 1. Certificate Of Analysis (CO-A) Naringenin



泽世化学
TIANEN CHEMICALS

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CERTIFICATE OF ANALYSIS

Product Name	Naringenin	Code	BPBE-622-A																																																						
Botanical Source	Citrus Grandis (L.) Osbeck	Used Part	Fruit																																																						
Batch No.	H020862217A	Mfg. Date	Aug. 15, 2017																																																						
Packing	25kg/Drum	Retest Date	Aug. 14, 2019																																																						
Quantity	25g	Report Date	Aug. 21, 2017																																																						
Specification	98%(HPLC)																																																								
<table border="1"><thead><tr><th>ITEM</th><th>SPECIFICATION</th><th>RESULT</th></tr></thead><tbody><tr><td>Assay(HPLC)</td><td>≥98.0%</td><td>98.23%</td></tr><tr><td>Appearance</td><td>White powder</td><td>Complies</td></tr><tr><td>Odor</td><td>Characteristic</td><td>Complies</td></tr><tr><td>Particle Size</td><td>NLT 95% pass 80 mesh</td><td>Complies</td></tr><tr><td>Loss on Drying</td><td>≤5.0%</td><td>0.53%</td></tr><tr><td>Sulphated Ash</td><td>≤0.1%</td><td>0.05%</td></tr><tr><td>Heavy Metals</td><td>≤10ppm</td><td>Complies</td></tr><tr><td>-Pb</td><td>≤1ppm</td><td>Complies</td></tr><tr><td>-As</td><td>≤1ppm</td><td>Complies</td></tr><tr><td>-Cd</td><td>≤1ppm</td><td>Complies</td></tr><tr><td>-Hg</td><td>≤0.1ppm</td><td>Complies</td></tr><tr><td>Total Plate Count</td><td>≤1000cfu/g</td><td>Complies</td></tr><tr><td>-Yeast & Mold</td><td>≤100cfu/g</td><td>Complies</td></tr><tr><td>-E.Coli</td><td>Negative</td><td>Negative</td></tr><tr><td>-Salmonella</td><td>Negative</td><td>Negative</td></tr><tr><td>Conclusion</td><td colspan="2">Comply with the Specification.</td></tr><tr><td>Storage</td><td colspan="2">Preserve in tight containers, protected from strong light and high heat. Store in dry cool place.</td></tr></tbody></table>				ITEM	SPECIFICATION	RESULT	Assay(HPLC)	≥98.0%	98.23%	Appearance	White powder	Complies	Odor	Characteristic	Complies	Particle Size	NLT 95% pass 80 mesh	Complies	Loss on Drying	≤5.0%	0.53%	Sulphated Ash	≤0.1%	0.05%	Heavy Metals	≤10ppm	Complies	-Pb	≤1ppm	Complies	-As	≤1ppm	Complies	-Cd	≤1ppm	Complies	-Hg	≤0.1ppm	Complies	Total Plate Count	≤1000cfu/g	Complies	-Yeast & Mold	≤100cfu/g	Complies	-E.Coli	Negative	Negative	-Salmonella	Negative	Negative	Conclusion	Comply with the Specification.		Storage	Preserve in tight containers, protected from strong light and high heat. Store in dry cool place.	
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Analyst:	QC Manager:	QA:																																																							

Lampiran 2. Gambar alat dan bahan penelitian

ALAT



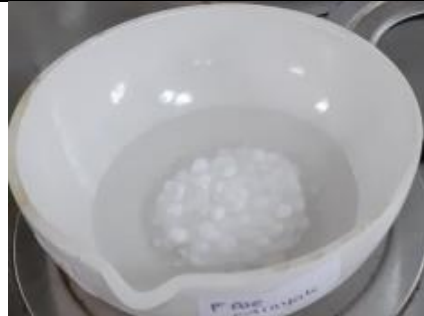
Spektrofotometri Uv-Vis



Water Bath



Mortir dan Stamper



Cawan Porselin



Alat Uji Daya Lekat



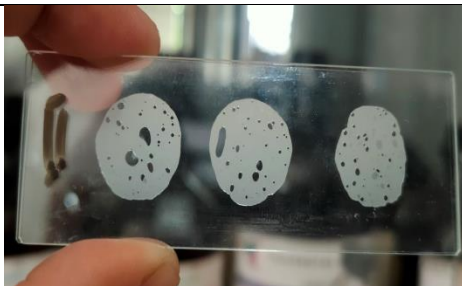
Alat Uji Daya Sebar



Alat Uji Viskositas



pH Meter



Alat Uji Homogenitas



Timbangan Analitik



Alat-Alat Gelas



Kompor



Isolat Naringenin



Gliserin



Setil Alkohol



Metil Paraben



Propyl Paraben



Asam Stearat



Trietanolamine



Paraffin Liquidum



Lanolin



Aquadest

Lampiran 3. Hasil uji flavonoid

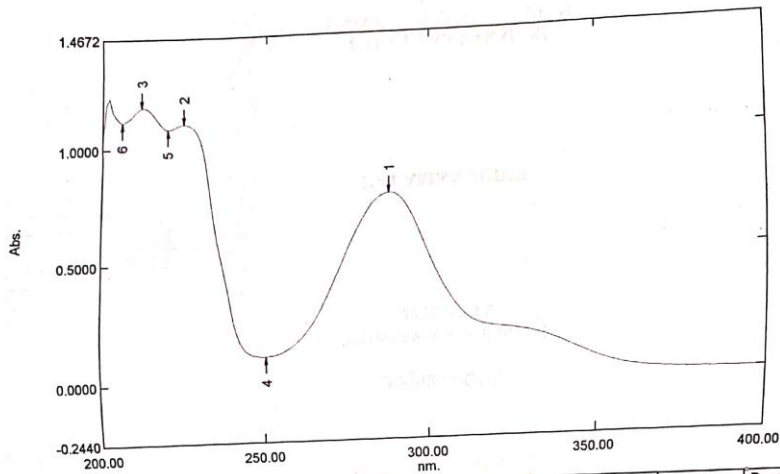


Lampiran 4. Kurva serapan naringenin dan penentuan panjang gelombang maksimum naringenin dengan pelarut metanol *p.a*

Spectrum Peak Pick Report

02/20/2020 01:24:00 PM

Data Set: File_200220_131829 - RawData



[Measurement Properties]
 Wavelength Range (nm.): 200.00 to 400.00
 Scan Speed: Medium
 Sampling Interval: 1.0
 Auto Sampling Interval: Disabled
 Scan Mode: Single

[Instrument Properties]
 Instrument Type: UV-1800 Series
 Measuring Mode: Absorbance
 Slit Width: 1.0 nm
 Light Source Change Wavelength: 340.0 nm
 S/R Exchange: Normal

[Attachment Properties]
 Attachment: None

[Operation]
 Threshold: 0.0010000
 Points: 4
 InterPolate: Disabled
 Average: Disabled

[Sample Preparation Properties]
 Weight:
 Volume:
 Dilution:
 Path Length:
 Additional Information:

No.	P/V	Wavelength	Abs.	Description
1	Ⓜ	288.00	0.7681	
2	Ⓜ	225.00	1.0996	
3	Ⓜ	212.00	1.1769	
4	Ⓜ	251.00	0.1034	
5	Ⓜ	220.00	1.0802	
6	Ⓜ	206.00	1.1136	

Lampiran 5. Hasil penetapan operating time

Kinetics Data Print Report

02/20/2020 03:22:45 PM

Time (Minute)	RawData ...
0.000	0.878
1.000	0.880
2.000	0.880
3.000	0.880
4.000	0.881
5.000	0.883
6.000	0.884
7.000	0.884
8.000	0.885
9.000	0.886
10.000	0.886
11.000	0.887
12.000	0.888
13.000	0.889
14.000	0.889
15.000	0.890
16.000	0.890
17.000	0.891
18.000	0.891
19.000	0.892
20.000	0.893
21.000	0.893
22.000	0.893
23.000	0.894
24.000	0.894
25.000	0.895
26.000	0.896
27.000	0.897
28.000	0.897
29.000	0.897
30.000	0.898

Lampiran 6. Hasil perhitungan larutan stok kurva kalibrasi naringenin pelarut metanol *p.a*

A. Penimbangan kurva baku

Kertas timbang	= 0,2768 g	
Kertas + Naringenin	= 0,2820 g	}
<u>Kertas + Sisa</u>	= 0,2770 g -	
Naringenin	= 0,005 g	masuk dalam labu takar 50 mL
Larutan Induk	= 100 ppm	

B. Pengenceran kurva baku

$V_1 \times N_1$	$= V_2 \times N_2$
$V_1 \times 100 \text{ ppm}$	$= 10 \text{ mL} \times \mathbf{4 \text{ ppm}}$
V_1	$= 0,4 \text{ mL}$
$V_1 \times N_1$	$= V_2 \times N_2$
$V_1 \times 100 \text{ ppm}$	$= 10 \text{ mL} \times \mathbf{6 \text{ ppm}}$
V_1	$= 0,6 \text{ mL}$
$V_1 \times N_1$	$= V_2 \times N_2$
$V_1 \times 100 \text{ ppm}$	$= 10 \text{ mL} \times \mathbf{8 \text{ ppm}}$
V_1	$= 0,8 \text{ mL}$
$V_1 \times N_1$	$= V_2 \times N_2$
$V_1 \times 100 \text{ ppm}$	$= 10 \text{ mL} \times \mathbf{10 \text{ ppm}}$
V_1	$= 1 \text{ mL}$
$V_1 \times N_1$	$= V_2 \times N_2$
$V_1 \times 100 \text{ ppm}$	$= 10 \text{ mL} \times \mathbf{12 \text{ ppm}}$
V_1	$= 1,2 \text{ mL}$
$V_1 \times N_1$	$= V_2 \times N_2$
$V_1 \times 100 \text{ ppm}$	$= 10 \text{ mL} \times \mathbf{14 \text{ ppm}}$
V_1	$= 1,4 \text{ mL}$

C. Hasil pengukuran absorbansi baku naringenin

Konsentrasi (ppm)	Absorbansi
4	0,271
6	0,355
8	0,435
10	0,510
12	0,587
14	0,666

Lampiran 7. Validasi metode analisis Metanol *p.a*

a. Linearitas

$$\begin{aligned}V_1 \times N_1 &= V_2 \times N_2 \\V_1 \times 100 &= 10 \text{ mL} \times \mathbf{4 \text{ ppm}} \\V_1 &= 0,4 \text{ mL}\end{aligned}$$

$$\begin{aligned}V_1 \times N_1 &= V_2 \times N_2 \\V_1 \times 100 &= 10 \text{ mL} \times \mathbf{6 \text{ ppm}} \\V_1 &= 0,6 \text{ mL}\end{aligned}$$

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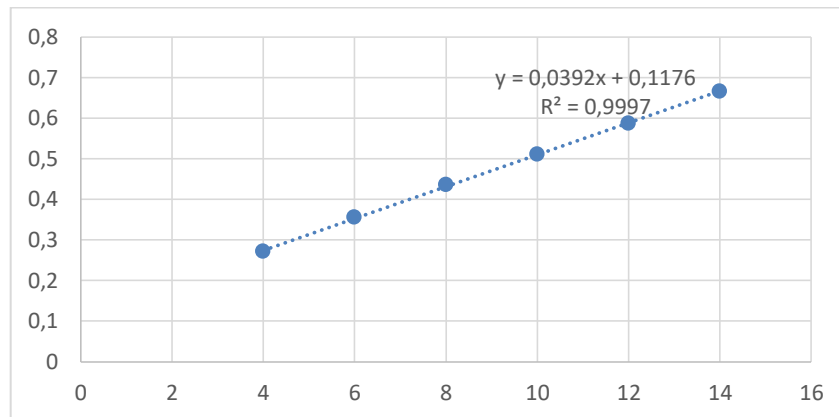
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Konsentrasi (ppm)	Absorbansi
4	0,271
6	0,355
8	0,435
10	0,510
12	0,587
14	0,666

$$A = 0,11761$$

$$B = 0,039229$$

$$r = 0,999853$$



b. Akurasi

Kons.	Replikasi	Abs.	Kons. Sebenarnya	Recovery	Rata - rata
6	1	0,349	5	98,31%	99,87%
6	2	0,353	6	100,01%	
6	3	0,356	6	101,28%	
8	1	0,428	7	98,90%	99,54%
8	2	0,427	7	98,59%	
8	3	0,435	8	101,13%	
10	1	0,510	10	100,03%	100,79%
10	2	0,516	10	101,56%	
10	3	0,513	10	100,79%	
Rata-rata keseluruhan					100,07%

c. Presisi

Replikasi	Absorbansi	Konsentrasi
1	0,429	7,9378
2	0,426	7,8613
3	0,427	7,8868
4	0,430	7,9633
5	0,431	7,9888
6	0,430	7,9633
7	0,432	8,0143
8	0,432	8,0143
9	0,434	8,0653
10	0,435	8,0907
SD	0,072301	
Rata-rata	7,978635591	
CV	0,91%	

d. LOD dan LOQ

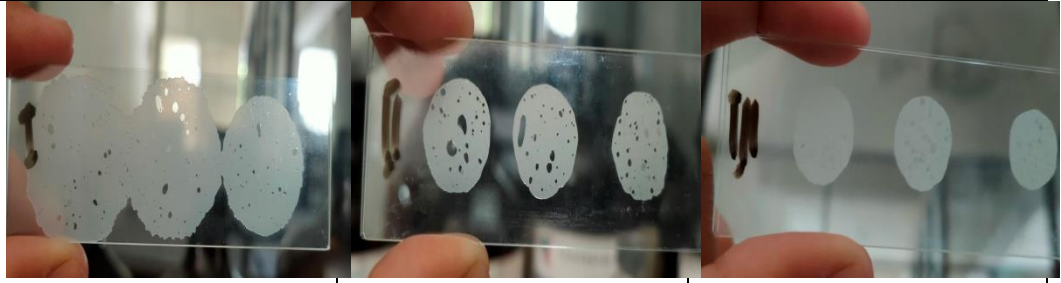
Kons.	Abs. (Y)	(Y')	Y-Y'	(Y-Y')²	Rata''
4	0,271	0,27452381	-0,00352381	1,24172E-05	9
6	0,355	0,352980952	0,002019048	4,07655E-06	
8	0,435	0,431438095	0,003561905	1,26872E-05	
10	0,510	0,509895238	0,000104762	1,09751E-08	
12	0,587	0,588352381	-0,001352381	1,82893E-06	
14	0,666	0,666809524	-0,000809524	6,55329E-07	
	A	0,117609524	SIGMA	3,16762E-05	
	B	0,039228571	N-2	4	
	r	0,999853004	SY/X	0,00281408	
			LOD	0,236727071	
			LOQ	0,71735476	
			V x 0	0,80%	

Lampiran 8. Foto hasil formulasi *lotion* naringenin



Lampiran 9. Foto hasil uji mutu fisik *lotion* naringenin

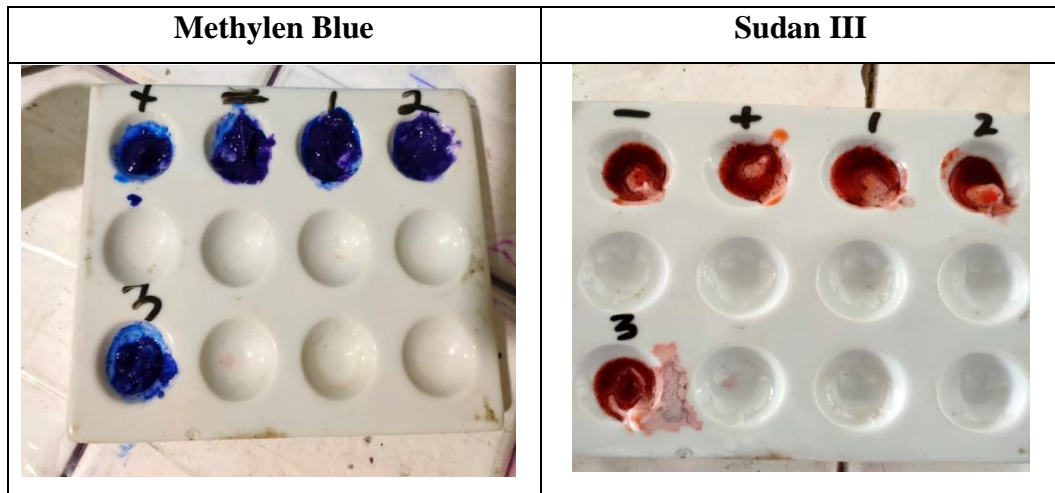
Pengujian Homogenitas



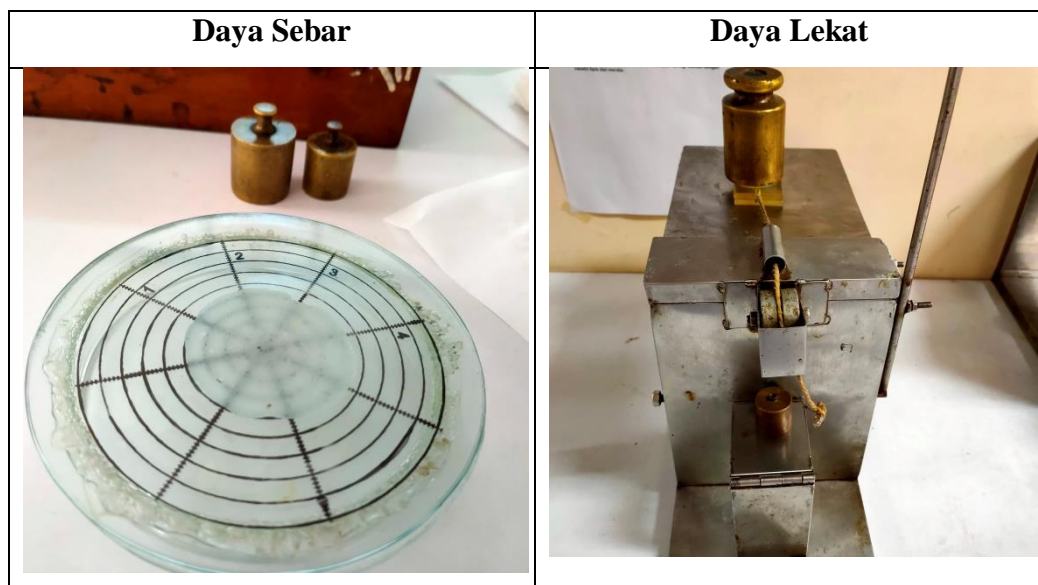
Pengujian Organoleptik



Lampiran 10. Uji tipe emulsi *lotion* naringenin



Lampiran 11. Foto uji daya sebar dan daya lekat



Lampiran 12. Data uji viskositas, daya lekat, pH, dan daya sebar

Uji Viskositas Minggu 0

Uji	Formula	Replikasi	Hasil	Rata-rata	
Uji viskositas (d.PaS)	1	1	140	140	
		2	140		
		3	140		
	2	2	1	200	200
			2	200	
			3	200	
	3	3	1	260	260
			2	260	
			3	260	

Uji Viskositas Minggu 4

Uji	Formula	Replikasi	Hasil	Rata-rata	
Uji viskositas (d.PaS)	1	1	130	130	
		2	130		
		3	130		
	2	2	1	175	175
			2	175	
			3	175	
	3	3	1	250	250
			2	250	
			3	250	

Uji Daya Lekat Minggu 0

Uji	Formula	Replikasi	Hasil	Rata-rata	
Uji daya lekat (detik)	1	1	1,10	1,10	
		2	1,13		
		3	1,08		
	2	2	1	2,45	2,45
			2	2,47	
			3	2,44	
	3	3	1	2,92	2,95
			2	2,96	
			3	2,98	

Uji Daya Lekat Minggu 4

Uji	Formula	Replikasi	Hasil	Rata-rata
Uji daya lekat (detik)	1	1	1,01	1,03
		2	1,05	
		3	1,03	
	2	1	2,28	2,30
		2	2,33	
		3	2,30	
	3	1	2,88	2,81
		2	2,80	
		3	2,75	

Uji pH Minggu 0

Uji	Formula	Replikasi	Hasil	Rata-rata
Uji pH	1	1	4,68	4,70
		2	4,73	
		3	4,71	
	2	1	4,85	4,85
		2	4,86	
		3	4,84	
	3	1	4,79	4,80
		2	4,81	
		3	4,80	

Uji pH Minggu 4

Uji	Formula	Replikasi	Hasil	Rata-rata
Uji pH	1	1	5,03	5,12
		2	5,13	
		3	5,25	
	2	1	5,75	5,67
		2	5,68	
		3	5,81	
	3	1	6,16	6,19
		2	6,23	
		3	6,19	

Uji Daya Sebar Minggu 0

Uji	Formula	Replikasi	Hasil	Rata-rata
Uji daya sebar (cm)	1	1	5,8	5,8
		2	5,7	
		3	5,9	
	2	1	4,4	4,6
		2	4,8	
		3	4,7	
	3	1	3,9	4
		2	3,8	
		3	4,3	

Uji Daya Sebar Minggu 4

Uji	Formula	Replikasi	Hasil	Rata-rata
Uji daya sebar (cm)	1	1	9,2	9,4
		2	9,6	
		3	9,4	
	2	1	8,0	7,8
		2	7,5	
		3	7,9	
	3	1	6,5	6,2
		2	6,3	
		3	6,0	

Lampiran 13. Data analisis *One Way ANOVA*

1. Uji Mutu Fisik

A. pH

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
pH	9	4.7856	.06464	4.68	4.86

One-Sample Kolmogorov-Smirnov Test

		pH
N		9
Normal Parameters ^{a,b}	Mean	4.7856
	Std. Deviation	.06464
	Absolute	.194
Most Extreme Differences	Positive	.138
	Negative	-.194
Kolmogorov-Smirnov Z		.582
Asymp. Sig. (2-tailed)		.887

a. Test distribution is Normal.

b. Calculated from data.

Test of Homogeneity of Variances

pH

Levene Statistic	df1	df2	Sig.
1.639	2	6	.270

ANOVA

pH

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.032	2	.016	57.160	.000
Within Groups	.002	6	.000		
Total	.033	8			

B. Daya Lekat

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Lekat	9	2.1700	.82905	1.08	2.98

One-Sample Kolmogorov-Smirnov Test

		Lekat
N		9
Normal Parameters ^{a,b}	Mean	2.1700
	Std. Deviation	.82905
Most Extreme Differences	Absolute	.294
	Positive	.228
	Negative	-.294
Kolmogorov-Smirnov Z		.883
Asymp. Sig. (2-tailed)		.417

a. Test distribution is Normal.

b. Calculated from data.

Test of Homogeneity of Variances

Lekat

Levene Statistic	df1	df2	Sig.
.704	2	6	.531

ANOVA

Lekat

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.495	2	2.748	4579.167	.000
Within Groups	.004	6	.001		
Total	5.499	8			

C. Daya Sebar

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Sebar	9	4.811	.8100	3.8	5.9

One-Sample Kolmogorov-Smirnov Test

		Sebar
N		9
Normal Parameters ^{a,b}	Mean	4.811
	Std. Deviation	.8100
	Absolute	.197
Most Extreme Differences	Positive	.172
	Negative	-.197
Kolmogorov-Smirnov Z		.591
Asymp. Sig. (2-tailed)		.876

a. Test distribution is Normal.

b. Calculated from data.

Test of Homogeneity of Variances

Sebar

Levene Statistic	df1	df2	Sig.
2.036	2	6	.211

ANOVA

Sebar

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	5.002	2	2.501	60.838	.000
Within Groups	.247	6	.041		
Total	5.249	8			

D. Viskositas

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Viskositas	9	204.67	54.408	138	270

One-Sample Kolmogorov-Smirnov Test

		Viskositas
N		9
Normal Parameters ^{a,b}	Mean	204.67
	Std. Deviation	54.408
Most Extreme Differences	Absolute	.201
	Positive	.201
	Negative	-.179
Kolmogorov-Smirnov Z		.603
Asymp. Sig. (2-tailed)		.861

a. Test distribution is Normal.

b. Calculated from data.

Test of Homogeneity of Variances

Viskositas

Levene Statistic	df1	df2	Sig.
1.655	2	6	.268

ANOVA

Viskositas

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	23594.667	2	11797.333	810.504	.000
Within Groups	87.333	6	14.556		
Total	23682.000	8			

2. Uji Setelah Stabilitas

A. pH

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
pH	18	5.4694	.70534	4.68	6.19

One-Sample Kolmogorov-Smirnov Test

		pH
N		18
Normal Parameters ^{a,b}	Mean	5.4694
	Std. Deviation	.70534
	Absolute	.322
Most Extreme Differences	Positive	.306
	Negative	-.322
Kolmogorov-Smirnov Z		1.365
Asymp. Sig. (2-tailed)		.048

a. Test distribution is Normal.

b. Calculated from data.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
pH	18	5.4694	.70534	.16625

One-Sample Test

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
pH	32.899	17	.000	5.46944	5.1187	5.8202

B. Daya Lekat

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Lekat	18	1.167	.7388	.1	2.3

One-Sample Kolmogorov-Smirnov Test

		Lekat
N		18
Normal Parameters ^{a,b}	Mean	1.167
	Std. Deviation	.7388
	Absolute	.174
Most Extreme Differences	Positive	.159
	Negative	-.174
Kolmogorov-Smirnov Z		.738
Asymp. Sig. (2-tailed)		.647

a. Test distribution is Normal.

b. Calculated from data.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Lekat	18	1.167	.7388	.1741

One-Sample Test

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Lekat t	6.699	17	.000	1.1667	.799	1.534

C. Daya Sebar

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Sebar	18	6.317	1.8962	3.8	9.6

One-Sample Kolmogorov-Smirnov Test

		Sebar
N		18
Normal Parameters ^{a,b}	Mean	6.317
	Std. Deviation	1.8962
	Absolute	.128
Most Extreme Differences	Positive	.128
	Negative	-.102
Kolmogorov-Smirnov Z		.544
Asymp. Sig. (2-tailed)		.929

a. Test distribution is Normal.

b. Calculated from data.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Sebar	18	6.317	1.8962	.4469

One-Sample Test

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Sebar	14.133	17	.000	6.3167	5.374	7.260

D. Viskositas

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
Viskositas	18	192.50	51.256	130	260

One-Sample Kolmogorov-Smirnov Test

		Viskositas
N		18
Normal Parameters ^{a,b}	Mean	192.50
	Std. Deviation	51.256
Most Extreme Differences	Absolute	.202
	Positive	.180
	Negative	-.202
Kolmogorov-Smirnov Z		.859
Asymp. Sig. (2-tailed)		.452

a. Test distribution is Normal.

b. Calculated from data.

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
Viskositas	18	192.50	51.256	12.081

One-Sample Test

	Test Value = 0					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Viskositas	15.934	17	.000	192.500	167.01	217.99

3. DPPH

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
HASIL DPPH	9	31.12630	16.242303	19.551	53.140

One-Sample Kolmogorov-Smirnov Test

		HASIL DPPH
N		9
Normal Parameters ^{a,b}	Mean	31.12630
	Std. Deviation	16.242303
	Most Extreme Differences	
	Absolute	.399
	Positive	.399
	Negative	-.238
Kolmogorov-Smirnov Z		1.196
Asymp. Sig. (2-tailed)		.114

a. Test distribution is Normal.

b. Calculated from data.

Test of Homogeneity of Variances

HASIL DPPH

Levene Statistic	df1	df2	Sig.
1.859	2	6	.235

ANOVA

HASIL DPPH

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2110.186	2	1055.093	20217.341	.000
Within Groups	.313	6	.052		
Total	2110.499	8			

Semua sampel

Descriptive Statistics

	N	Mean	Std. Deviation	Minimum	Maximum
IC50	18	2427.13850	5493.255955	19.550	14614.071

One-Sample Kolmogorov-Smirnov Test

		IC50
N		18
Normal Parameters ^{a,b}	Mean	2427.13850
	Std. Deviation	5493.255955
	Absolute	.500
Most Extreme Differences	Positive	.500
	Negative	-.331
Kolmogorov-Smirnov Z		2.123
Asymp. Sig. (2-tailed)		.000

a. Test distribution is Normal.

b. Calculated from data.

Test of Homogeneity of Variances

IC50

Levene Statistic	df1	df2	Sig.
11.713	5	12	.000

ANOVA

IC50

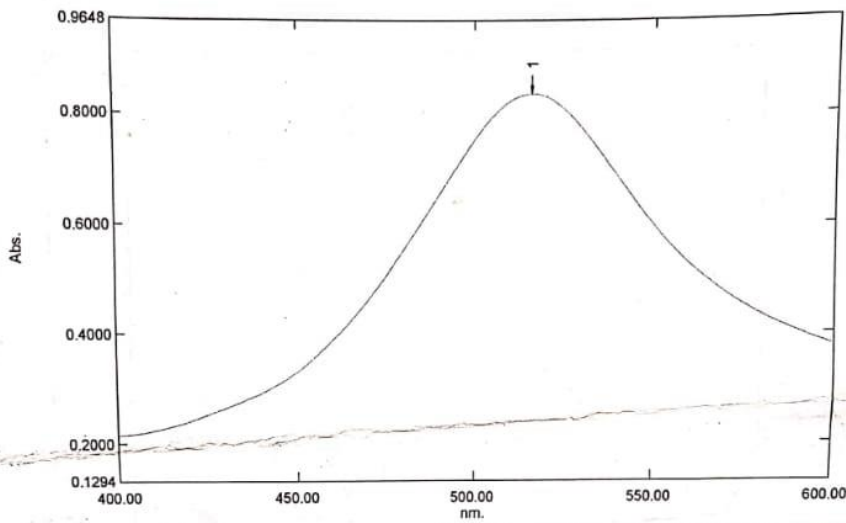
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	512770969.220	5	102554193.844	5627.953	.000
Within Groups	218667.469	12	18222.289		
Total	512989636.690	17			

Lampiran 14. Kurva serapan larutan DPPH dengan pelarut methanol *p.a*

Spectrum Peak Pick Report

11/09/2020 10:48:37 AM

Data Set: File_201109_104428 - RawData



[Measurement Properties]
 Wavelength Range (nm.): 400.00 to 600.00
 Scan Speed: Medium
 Sampling Interval: 1.0
 Auto Sampling Interval: Disabled
 Scan Mode: Single

No.	P/V	Wavelength	Abs.	Description
1	⊕	516.00	0.8357	

[Instrument Properties]
 Instrument Type: UV-1800 Series
 Measuring Mode: Absorbance
 Slit Width: 1.0 nm
 Light Source Change Wavelength: 340.0 nm
 S/R Exchange: Normal

[Attachment Properties]
 Attachment: None

[Operation]
 Threshold: 0.0010000
 Points: 4
 InterPolate: Disabled
 Average: Disabled

[Sample Preparation Properties]
 Weight:
 Volume:
 Dilution:
 Path Length:
 Additional Information:

Lampiran 15. Hasil penetapan *operating time isolate naringenin murni*

Kinetics Data Print Report

10/13/2020 03:01:03 PM

Time (Minute)	RawData ...
0.000	0.764
1.000	0.762
2.000	0.757
3.000	0.755
4.000	0.753
5.000	0.752
6.000	0.751
7.000	0.750
8.000	0.749
9.000	0.748
10.000	0.747
11.000	0.746
12.000	0.746
13.000	0.745
14.000	0.744
15.000	0.743
16.000	0.743
17.000	0.742
18.000	0.742
19.000	0.742
20.000	0.741
21.000	0.740
22.000	0.740
23.000	0.740
24.000	0.739
25.000	0.739
26.000	0.738
27.000	0.738
28.000	0.738
29.000	0.738
30.000	0.737
31.000	0.737
32.000	0.737
33.000	0.736
34.000	0.736
35.000	0.736
36.000	0.736
37.000	0.736
38.000	0.736
39.000	0.736
40.000	0.736
41.000	0.736
42.000	0.737
43.000	0.737
44.000	0.737
45.000	0.737
46.000	0.738
47.000	0.737
48.000	0.739
49.000	0.737
50.000	0.737

Naringenin Murni

Kinetics Data Print Report

11/06/2020 01:47:10 PM

Time (Minute)	RawDataW11 ...
51.000	0.720
52.000	0.721
53.000	0.721
54.000	0.722
55.000	0.723
56.000	0.724
57.000	0.724
58.000	0.725
59.000	0.726
60.000	0.727

Lampiran 16. Uji nilai IC₅₀

a. Isolat naringenin murni

Kons	Replikasi	Abs	Y (%)
4	1	0,875	4,371
	2	0,872	4,699
	3	0,874	4,480
6	1	0,814	11,038
	2	0,812	11,256
	3	0,813	11,147
8	1	0,773	15,519
	2	0,771	15,737
	3	0,772	15,628
10	1	0,715	21,857
	2	0,712	22,185
	3	0,713	22,076
12	1	0,680	25,683
	2	0,683	25,355
	3	0,621	25,573

Replikasi	A	B	r	IC ₅₀ (ppm)
1	-5,6836	2,67215	0,996	20,83850083
2	-5,05	2,61205	0,994	21,07540055
3	-5,4652	2,65575	0,995	20,88494775

Replikasi 1 $y = a + b x$
 $50 = -5,6836 + 2,67215 x$
 $x = (50 + 5,6836) / 2,67215$
 $x = 20,83850083 \text{ ppm}$

Replikasi 2 $y = a + b x$
 $50 = -5,05 + 2,61205 x$
 $x = (50 + 5,05) / 2,61205$
 $x = 21,07540055 \text{ ppm}$

Replikasi 3 $y = a + b x$
 $50 = -5,4652 + 2,65575 x$
 $x = (50 + 5,4652) / 2,65575$
 $x = 20,88494775 \text{ ppm}$

b. Lotion naringenin formula terbaik konsentrasi 0,4%

Kons	Replikasi	Abs	Y (%)
10	1	0,890	2,732
	2	0,891	2,622
	3	0,890	2,732
15	1	0,825	9,836
	2	0,823	10,054
	3	0,823	10,054
20	1	0,789	13,770
	2	0,786	14,098
	3	0,788	13,879
25	1	0,721	21,202
	2	0,720	21,311
	3	0,723	20,983
30	1	0,693	24,262
	2	0,692	24,371
	3	0,694	24,153

Replikasi	A	B	r	IC ₅₀ (ppm)
1	-7,41	1,08852	0,992	52,74133686
2	-7,4108	1,0951	0,991	52,42516665
3	-7,1482	1,07542	0,992	53,14035447

Replikasi 1 $y = a + b x$
 $50 = -7,41 + 1,08852 x$
 $x = (50 + 7,41) / 1,08852$
 $x = 52,74133686 \text{ ppm}$

Replikasi 2 $y = a + b x$
 $50 = -7,4108 + 1,0951 x$
 $x = (50 + 7,4108) / 1,0951$
 $x = 52,42516665 \text{ ppm}$

Replikasi 3 $y = a + b x$
 $50 = -7,1482 + 1,07542 x$
 $x = (50 + 7,1482) / 1,07542$
 $x = 53,14035447 \text{ ppm}$

c. Perbandingan (Vitamin C)

Kons	Replikasi	Abs	Y (%)
2	1	0,905	1,092
	2	0,902	1,420
	3	0,904	1,202
4	1	0,847	7,431
	2	0,846	7,540
	3	0,847	7,431
6	1	0,808	11,693
	2	0,809	11,584
	3	0,806	11,912
8	1	0,740	19,125
	2	0,743	18,797
	3	0,744	18,688
10	1	0,705	22,950
	2	0,704	23,060
	3	0,705	22,950

Replikasi	A	B	r	IC ₅₀ (ppm)
1	-4,1648	2,7705	0,995	19,55055044
2	-3,8809	2,72685	0,996	19,75939271
3	-3,9893	2,73765	0,997	19,72103812

Replikasi 1 $y = a + b x$
 $50 = -4,1648 + 2,7705 x$
 $x = (50 + 4,1648) / 2,7705$
 $x = 19,55055044 \text{ ppm}$

Replikasi 2 $y = a + b x$
 $50 = -3,8809 + 2,72685 x$
 $x = (50 + 3,8809) / 2,72685$
 $x = 19,75939271 \text{ ppm}$

Replikasi 3 $y = a + b x$
 $50 = -3,9893 + 2,73765 x$
 $x = (50 + 3,9893) / 2,73765$
 $x = 19,72103812 \text{ ppm}$

d. Formula I

Kons	Replikasi	Abs	Y (%)
10	1	0,901	1,530
	2	0,901	1,530
	3	0,903	1,311
15	1	0,851	6,994
	2	0,853	6,775
	3	0,850	7,103
20	1	0,813	11,147
	2	0,810	11,475
	3	0,809	11,584
25	1	0,737	19,453
	2	0,735	19,672
	3	0,739	19,234
30	1	0,703	23,169
	2	0,701	23,387
	3	0,705	22,950

Replikasi	A	B	r	IC ₅₀ (ppm)
1	-9,8362	1,11474	0,993	53,67727004
2	-10,0766	1,13222	0,994	53,06088923
3	-9,7272	1,10818	0,995	53,89665939

Replikasi 1 $y = a + b x$
 $50 = -9,8362 + 1,11474 x$
 $x = (50 + 9,8362) / 1,11474$
 $x = 53,67727004 \text{ ppm}$

Replikasi 2 $y = a + b x$
 $50 = -10,0766 + 1,13222 x$
 $x = (50 + 10,0766) / 1,13222$
 $x = 53,06088923 \text{ ppm}$

Replikasi 3 $y = a + b x$
 $50 = -9,7272 + 1,10818 x$
 $x = (50 + 9,7272) / 1,10818$
 $x = 53,89665939 \text{ ppm}$

e. Formula II

Kons	Replikasi	Abs	Y (%)
10	1	0,908	0,765
	2	0,906	0,983
	3	0,905	1,092
15	1	0,868	5,136
	2	0,869	5,027
	3	0,865	5,464
20	1	0,819	10,491
	2	0,819	10,491
	3	0,816	10,819
25	1	0,742	18,907
	2	0,743	18,797
	3	0,744	18,688
30	1	0,710	22,404
	2	0,709	22,513
	3	0,713	22,076

Replikasi	A	B	r	IC ₅₀ (ppm)
1	-11,279	1,14098	0,992	53,7073393
2	-11,1044	1,13224	0,992	53,96771003
3	-10,449	1,10384	0,993	54,76246557

Replikasi 1 $y = a + b x$
 $50 = -11,279 + 1,14098 x$
 $x = (50 + 11,279) / 1,14098$
 $x = 53,7073393 \text{ ppm}$

Replikasi 2 $y = a + b x$
 $50 = -11,1044 + 1,13224 x$
 $x = (50 + 11,1044) / 1,13224$
 $x = 53,96771003 \text{ ppm}$

Replikasi 3 $y = a + b x$
 $50 = -10,449 + 1,10384 x$
 $x = (50 + 10,449) / 1,10384$
 $x = 54,76246557 \text{ ppm}$

f. Kontrol negatif

Kons	Replikasi	Abs	Y (%)
50	1	0,768	16,065
	2	0,768	16,065
	3	0,771	15,737
100	1	0,753	17,704
	2	0,755	17,486
	3	0,756	17,377
500	1	0,736	19,562
	2	0,738	19,344
	3	0,735	19,672
1000	1	0,701	23,387
	2	0,707	22,732
	3	0,702	23,278
5000	1	0,655	28,415
	2	0,655	28,415
	3	0,652	28,743

Replikasi	A	B	r	IC ₅₀ (ppm)
1	18,12578585	0,002181063268	0,919	14614,07132
2	17,85679036	0,002219255368	0,939	14483,78141
3	17,91012435	0,002294192215	0,922	13987,43987

Replikasi 1 $y = a + b x$
 $50 = 18,12578585 + 0,002181063268 x$
 $x = (50 + 18,12578585) / 0,002181063268$
 $x = 14614,07132 \text{ ppm}$

Replikasi 2 $y = a + b x$
 $50 = 17,85679036 + 0,002219255368 x$
 $x = (50 + 17,85679036) / 0,002219255368$
 $x = 14483,78141 \text{ ppm}$

Replikasi 3 $y = a + b x$
 $50 = 17,91012435 + 0,002294192215 x$
 $x = (50 + 17,91012435) / 0,002294192215$
 $x = 13987,43987 \text{ ppm}$

