L A M P I R A N

Lampiran 1. Hasil determinasi bunga kelor

UPT-LABORATORIUM

UNIVERSITAS SETIA BUDI

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Nomor : 314/DET/UPT-LAB/23.11.2021
Hal : Hasil determinasi tumbuhan
Lamp. : -

Nama : Miftahul Jannah
NIM : 24185550A
Alamat : Program Studi S1 Farmasi,
Universitas Setia Budi, Surakarta
Nama sampel : Kelor/ *Moringa oleifera* Lamk.

HASIL DETERMINASI TUMBUHAN

Klasifikasi

Kingdom : Plantae
Super Divisi : Spermatophyta
Divisi : Magnoliophyta
Kelas : Magnoliopsida
Ordo : Brassicales
Famili : Moringaceae
Genus : Moringa
Species : *Moringa oleifera* Lamk.

Hasil Determinasi menurut Steenis, C.G.G.J.V, Bloembergen, H, Eyma, P.J. 1992 :
1b – 2b – 3b – 4b – 6b – 7b – 9b – 10b – 11b – 12b – 13b – 15b. golongan 9. 197b – 208a – 209b – 210b – 211b – 214a. familia 55. Moringaceae. *Moringa oleifera* Lamk.

Deskripsi :
Habitus : Pohon bengkok, menggugurkan daun, tinggi 3 – 10 m.
Akar : Sistem akar tunggang.

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Batang	:	Batang berkayu, percabangan monopodial, ranting dengan tanda bekas daun yang besar.
Daun	:	Daun tersebar, menyirip ganjil rangkap 2 – 4. Anak daun bertangkai, bulat telur terbalik, tepi rata, sisi bawah hijau pucat, panjang 1,6 – 2,1 cm, tulang daun menyirip.
Bunga	:	Bunga malai, panjang 11,4 – 14,1 cm. Piala kelopak hijau, taju kelopak melengkung membalik, putih, panjang 1 cm. Daun mahkota putih kuning, yang terdepan terbesar, panjang lk 1,5 cm, yang lain membalik. Benang sari dan staminodia dengan ujung yang melengkung kembali.
Buah	:	Buah kotak, menggantung, bersudut 3, panjang 33,2 – 46,5 cm. Katup tebal, di tengah ada bekas cetakan yang dalam berisi 1 baris biji.
Biji	:	Biji bentuk bola, bersayap 3.

Surakarta, 23 November 2021

Kepala UPT-LAB
Universitas Setia Budi

Asik Gunawan, Amdk

Penanggung jawab
Determinasi Tumbuhan

Dra. Dewi Sulistyawati. M.Sc.

Jl. Letjen Sutoyo, Mojosongo-Solo 57127 Telp. 0271-852518, Fax. 0271-853275
Homepage : www.setiabudi.ac.id, e-mail : info@setiabudi.ac.id

Lampiran 2. Hasil rendemen berat kering terhadap berat basah

Sampel	Berat Basah (g)	Berat Kering (g)	Rendemen (%)
Bunga kelor	20.500	2.300	11.21

% rendemen bobot kering = $\frac{2.300}{20.500}$ x 100% = 11.21%

Lampiran 3. Hasilrendemen berat serbuk terhadap berat kering

Sampel	Berat kering (g)	Berat serbuk (g)	Rendemen (%)
Bunga kelor	2.150	650	30.23

% rendemen bobot kering = $\frac{650}{2.150}$ x 100% = 30.23%

Lampiran 4. Hasil rendemen ekstrak

Sampel	Berat serbuk (g)	Berat ekstrak (g)	Rendemen (%)
Serbuk bunga kelor	650	252	38.76

% rendemen bobot kering = $\frac{252}{650}$ x 100% = 38.76%

Lampiran 5. Hasil pengumpulan bahan dan pembuatan ekstrak

Bunga kelor segar

Bunga kelor kering

Serbuk bunga kelor

Maserasi

Ekstrak bunga kelor

Lampiran 6. Hasil penetapan susut pengeringan serbuk

		
Replikasi 1	**Replikasi 2**	**Replikasi 3**

Sampel	Bobot Serbuk (g)	Kandungan lembab serbuk (%)	Rata-rata (%)
Bunga kelor	2,0	9,0	8,8
	2,0	8,9	
	2,0	8,5	

Lampiran 7. Penetapan kadar air serbuk (Destilasi)

		
Replikasi 1	**Replikasi 2**	**Replikasi 3**

Serbuk	Berat serbuk (g)	Volume air (ml)	Kadar air (% b/v)
Bunga kelor	10	0.7	7
	10	0.6	6
	10	0.8	8
			7±1.0
	Rata – rata ± SD		

Perhitungan kadar air serbuk (Destilasi)

Kadar air serbuk $= \frac{Volume\ air\ (ml)}{Bobot\ serbuk}$ x 100 %

Replikasi 1 $= \frac{0.7\ (ml)}{10\ (g)}$ x 100 % = 7 %

Replikasi 2 $= \frac{0.6\ (ml)}{10\ (g)}$ x 100 % = 6 %

Replikasi 3 $= \frac{0.8\ (ml)}{10\ (g)}$ x 100 % = 8 %

Rata – rata $= \frac{7\ \%+6\ \%+8\ \%}{3}$ = 7 %

Lampiran 8. Perhitungan kadar air ekstrak (Gravimetri)

No.	Berat crush koson g (g)	Berat crush + ekstrak sebelum dioven	Berat ekstra k basah (g)	Berat crush + ekstrak sesudah dioven	Berat ekstrak kering (g)	Kadar air (%)
1	23.316	25.447	2.131	23.518	1.929	9.479
2	23.166	25.285	2.119	23.365	1.920	9.391
3	23.284	25.418	2.134	23.487	1.931	9.512
Rata – rata						9.460
SD						0.063

Perhitungan kadar air

Kadar air $= \frac{\textbf{bobot ekstrak basah} - \textbf{berat ekstrak kering}}{\textbf{berat ekstrak basah}}$ x 100%

Replikasi 1 $= \frac{2.131 - 1.929}{2.131}$ x 100% = 9.479%

Replikasi 2 $= \frac{2.119 - 1.920}{2.119}$ x 100% = 9.391%

Replikasi 3 $= \frac{2.134 - 1.931}{2.134}$ x 100% = 9.512%

Rata-rata $= \frac{9.479 + 9.391 + 9.512}{3}$ = 9.460

Lampiran 9. Hasil uji tabung ekstrak bunga kelor

				
+ Triterpenoid	+ Fenol	+ Tanin	+ Saponin	+ Flavonoid

	
+Bouchardat	- Dragendorf

Lampiran 10. Viskositas nanosuspensi ekstrak bunga kelor

Sebelum uji stabilitas

Sampel	Pikno 0 (g)	Pikno sampel (g)	Volume pikno (ml)	Massa jenis (g/ml)
Air	13.576	23.627	10	1
F1	13.583	23.551	10	0.996
F7	13.589	23.548	10	0.995

Perhitunga massa jenis

Massa jenis $= \frac{\textbf{pikno dengan larutan} - \textbf{pikno kosong}}{\textbf{volume pikno}}$

Air = 1 g/ml

F1 $= \frac{23.551 - 13.583}{10} = 0.996$

F7 $= \frac{23.548 - 13.589}{10} = 0.995$

Sampel	Waktu (s)			Viskositas (cPs)			Rata-rata	SD
	1	2	3	1	2	3		
Air	22.10	22.13	22.17	0.899			0.899	0
F1	20.67	20.78	20.56	0.837	0.840	0.830	0.836	0.005
F7	20.19	20.52	20.38	0.817	0.829	0.822	0.823	0.006

Perhitungan viskositas

Diketahui viskositas air = 0,899 cPs

Ɲ sampel = Ɲ air x $\frac{\rho \text{ sampel x t sampel}}{\rho \text{ air x t air}}$

Replikasi 1

F1 $= 0.899 \text{ x } \frac{0.996 \text{ x } 20.67}{1 \text{ x } 22.10} = 0.837$

F7 $= 0.899 \text{ x } \frac{0.995 \text{ x } 20.19}{1 \text{ x } 22.10} = 0.817$

Replikasi 2

F1 $= 0.899 \text{ x} \frac{0.996 \text{ x } 20.78}{1 \text{ x } 22.13} = 0.840$

F7 $= 0.899 \text{ x } \frac{0.995 \text{ x } 20.52}{1 \text{ x } 22.13} = 0.829$

Replikasi 3

F1 $= 0.899 \text{ x } \frac{0.996 \text{ x } 20.56}{1 \text{ x } 22.17} = 0.830$

F7 $= 0.899 \text{ x } \frac{0.995 \text{ x } 20.38}{1 \text{ x } 22.17} = 0.822$

Sesudah uji stabilitas

Sampel	Pikno 0 (g)	Pikno sampel (g)	Volume pikno (ml)	Massa jenis (g/ml)
Air	13.587	23.615	10	1
F1	13.594	23.581	10	0.998
F7	13.596	23.561	10	0.996

Perhitunga massa jenis

Massa jenis $= \frac{\text{pikno dengan larutan} - \text{pikno kosong}}{\text{volume pikno}}$

Air = 1 g/ml

F1 $= \frac{23.581 - 13.594}{10} = 0.998$

F7 $= \frac{23.561 - 13.596}{10} = 0.996$

Sampel	Waktu (s)			Viskositas (cPs)			Rata-rata	SD
	1	2	3	1	2	3		
Air	22.01	22.15	22.11	0.899			0.899	0
F1	20.75	20.87	20.63	0.845	0.845	0.837	0.842	0.005
F7	20.28	20.66	20.49	0.825	0.835	0.829	0.830	0.005

Perhitungan viskositas

Diketahui viskositas air = 0,899 cPs

Ɒ sampel = Ɲ air x $\frac{\rho \text{ sampel x t sampel}}{\rho \text{ air x t air}}$

Replikasi 1

F1 $= 0.899 \text{ x } \frac{0.998 \text{ x } 20.75}{1 \text{ x } 22.01} = 0.845$

F7 $= 0.899 \text{ x } \frac{0.996 \text{ x } 20.28}{1 \text{ x } 22.01} = 0.825$

Replikasi 2

F1 $= 0.899 \text{ x} \frac{0.998 \text{ x } 20.87}{1 \text{ x } 22.15} = 0.845$

F7 $= 0.899 \text{ x } \frac{0.996 \text{ x } 20.66}{1 \text{ x } 22.15} = 0.835$

Replikasi 3

F1 $= 0.899 \text{ x } \frac{0.998 \text{ x } 20.63}{1 \text{ x } 22.11} = 0.837$

F7 $= 0.899 \text{ x } \frac{0.996 \text{ x } 20.49}{1 \text{ x } 22.11} = 0.829$

Lampiran 11. Hasil uji SPSS viskositas

Hasil uji normalitas

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Formula	Statistic	df	Sig.	Statistic	df	Sig.
Viskositas_Sebelum	Formula 1	.232	3	.	.980	3	.726
	Formula 7	.219	3	.	.987	3	.780
Viskositas_Sesudah	Formula 1	.269	3	.	.949	3	.567
	Formula 7	.211	3	.	.991	3	.817

a. Lilliefors Significance Correction

Hasil uji paired sample T test viskositas

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Viskositas_Sebelum	.83517	6	.007278	.002971
	Viskositas_Sesudah	.82917	6	.008704	.003554

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	Viskositas_Sebelum Viskositas_Sesudah	.006000	.003033	.001238	.002817	.009183	4.845	5	.205

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Viskositas_Sebelum Viskositas_Sesudah	6	.943	.005

Lampiran 12. Hasil uji ukuran partikel dan PI nanosuspensi
Data Ukuran Partikel dan Polidispersitas

Size Distribution Report by Number

v2.2

Malvern

Sample Details

Sample Name: F1 1
SOP Name: mansettings.nano
General Notes:

File Name:	Mita 2022.dts	**Dispersant Name:**	Water
Record Number:	1	**Dispersant RI:**	1.330
Material RI:	1.30	**Viscosity (cP):**	0.8872
Material Absorbtion:	0.100	**Measurement Date and Time:**	07 January 2022 13:48:35

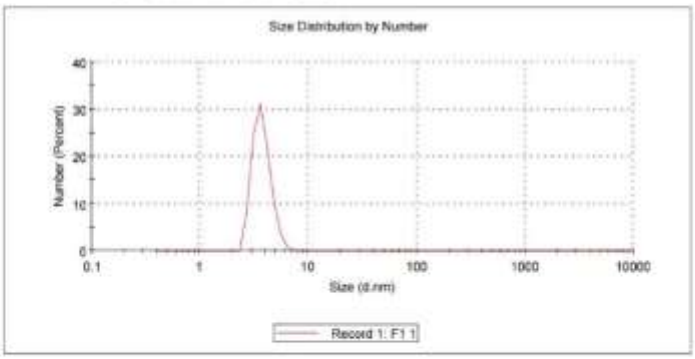
System

Temperature (°C):	25.0	**Duration Used (s):**	60
Count Rate (kcps):	128.4	**Measurement Position (mm):**	1.25
Cell Description:	Disposable sizing cuvette	**Attenuator:**	10

Results

			Size (d.n...	% Number:	St Dev (d.n...
Z-Average (d.nm):	335.3	**Peak 1:**	3.767	100.0	0.7411
PdI:	0.547	**Peak 2:**	0.000	0.0	0.000
Intercept:	0.479	**Peak 3:**	0.000	0.0	0.000

Result quality Refer to quality report



SEBELUM UJI STABILITAS				
Replikasi	Ukuran Partikel (nm)		PI	
	F1	F7	F1	F7
1	335.3	277.5	0.447	0.406
2	458.8	218.7	0.532	0.382
3	445.7	188.7	0.498	0.328
4	356.2	227.9	0.487	0.292
5	369.5	175.3	0.521	0.376
Rata – rata	393.10	217.62	0.497	0.357
SD	67.84	36.88	0.043	0.046
SESUDAH UJI STABILITAS				
1	358.9	281.2	0.487	0.442
2	417.2	253.1	0.544	0.482
3	301.9	198.4	0.473	0.371
4	468.3	257.5	0.556	0.355
5	503.1	173.4	0.527	0.354
Rata – rata	409.88	232.72	0.517	0.401
SD	81.26	44.93	0.036	0.058

Lampiran 13. Hasil uji SPSS ukuran partikel

Hasil uji normalitas ukuran partikel

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Formula	Statistic	df	Sig.	Statistic	df	Sig.
UkuranPartikel_Sebelum	Formula 1	.265	5	.200*	.871	5	.271
	Formula 7	.198	5	.200*	.948	5	.720
UkuranPartikel_Sesudah	Formula 1	.164	5	.200*	.971	5	.880
	Formula 7	.328	5	.084	.817	5	.110

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

Hasil uji paired sample T test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	UkuranPartikel_Sebelum	305.3600	10	103.08871	32.59951
	UkuranPartikel_Sesudah	319.3000	10	112.99935	35.73353

Paired Samples Correlations

			N	Correlation	Sig.
Pair 1	UkuranPartikel_Sebelum & UkuranPartikel_Sesudah		10	.747	.013

Paired Samples Test

		Paired Differences					t		Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	UkuranPartikel_Sebelum - UkuranPartikel_Sesudah	-13.94000	77.35991	24.46335	-69.27995	41.39995	-.570	9	.583

Lampiran 14. Hasil uji SPSS polidispersitas

Hasil uji normalitas polidispersitas

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Nanosuspensi	Statistic	df	Sig.	Statistic	df	Sig.
PI_Sebelum	Formula 1	.182	5	.200*	.951	5	.744
	Formula 7	.262	5	.200*	.933	5	.616
PI_Sesudah	Formula 1	.205	5	.200*	.916	5	.505
	Formula 7	.292	5	.188	.817	5	.110

*. This is a lower bound of the true significance.
a. Lilliefors Significance Correction

Hasil uji paired sample T test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	PI_Sebelum	.42690	10	.082996	.026246
	PI_Sesudah	.45710	10	.076074	.024057

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	PI_Sebelum & PI_Sesudah	10	.898	.000

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	PI_Sebelum - PI_Sesudah	-.030200	.036581	.011568	-.056369	-.004031	-2.611	9	.078

Lampiran 15. Hasil uji zeta potensial nanosuspensi

Zeta Potential Report

v2.3

Malvern

Sample Details

Sample Name: F1 1
SOP Name: mansettings.nano
General Notes:

File Name: Mita 2022.dts
Record Number: 6
Date and Time: 07 January 2022 14:04:40
Dispersant Name: Water
Dispersant RI: 1,330
Viscosity (cP): 0,8872
Dispersant Dielectric Constant: 78.5

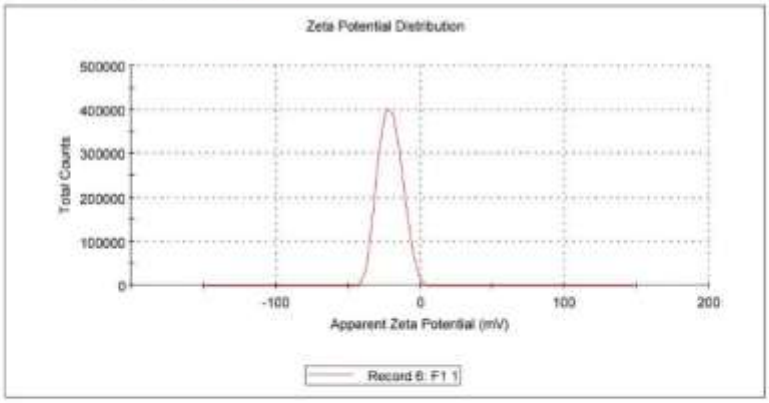
System

Temperature (°C): 25,0
Count Rate (kcps): 271,4
Cell Description: Zeta dip cell
Zeta Runs: 12
Measurement Position (mm): 4,50
Attenuator: 11

Results

		Mean (mV)	Area (%)	St Dev (mV)
Zeta Potential (mV): -20,7	**Peak 1:**	-20,7	100,0	7,87
Zeta Deviation (mV): 7,87	**Peak 2:**	0,00	0,0	0,00
Conductivity (mS/cm): 1,27	**Peak 3:**	0,00	0,0	0,00

Result quality Good



Data Zeta Potensial

Replikasi	Sebelum uji stabilitas		Sesudah uji stabilitas	
	F1	**F7**	**F1**	**F7**
1	-20,7	-12,2	-20.5	-10,3
2	-22,4	-13,1	-22,0	-11,4
3	-21,5	-12,1	-20,0	-10,9
4	-21,1	-11,7	-22,8	-10,5
5	-21,7	-12,5	-20,9	-11,8
Rata-rata	**-21.48**	**-12.32**	**-21.24**	**-10.98**
SD	**0.57**	**0.47**	**1.02**	**0.56**

Lampiran 16. Hasil uji SPSS zeta potensial

Hasil uji normalitas

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Nanosuspensi	Statistic	Df	Sig.	Statistic	df	Sig.
ZetaPotensial_Sebelum	Formula 1	.166	5	.200*	.986	5	.964
	Formula 7	.180	5	.200*	.952	5	.754
ZetaPotensial_Sesudah	Formula 1	.217	5	.200*	.948	5	.724
	Formula 7	.191	5	.200*	.969	5	.872

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Paired Samples Correlations

			N	Correlation	Sig.
Pair 1	ZetaPotensial_Sebelum & ZetaPotensial_Sesudah		10	.985	.000

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	ZetaPotensial_Sebelum	-16.230	10	5.5660	1.7601
	ZetaPotensial_Sesudah	-16.780	10	4.7751	1.5100

Hasil uji paired simple T test

Paired Samples Test

		Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower	Upper			
Pair 1	ZetaPotensial_Sebelum - ZetaPotensial_Sesudah	.5500	1.1937	.3775	-.3039	1.4039	1.457	9	.179

Lampiran 17. Perhitungan larutan induk DPPH

Serbuk DPPH ditimbang sesuai perhitungan sebagai berikut :

0,4 mM = 0,0004 M

BM DPPH = 394,32 g/mol

Volume = 100 ml

Molaritas (M) $= \frac{\text{bobot (g)x 1000}}{\text{BM DPPH x Volume}}$

0,0004 $= \frac{\text{b x 1000}}{\text{394,32 x 100}}$

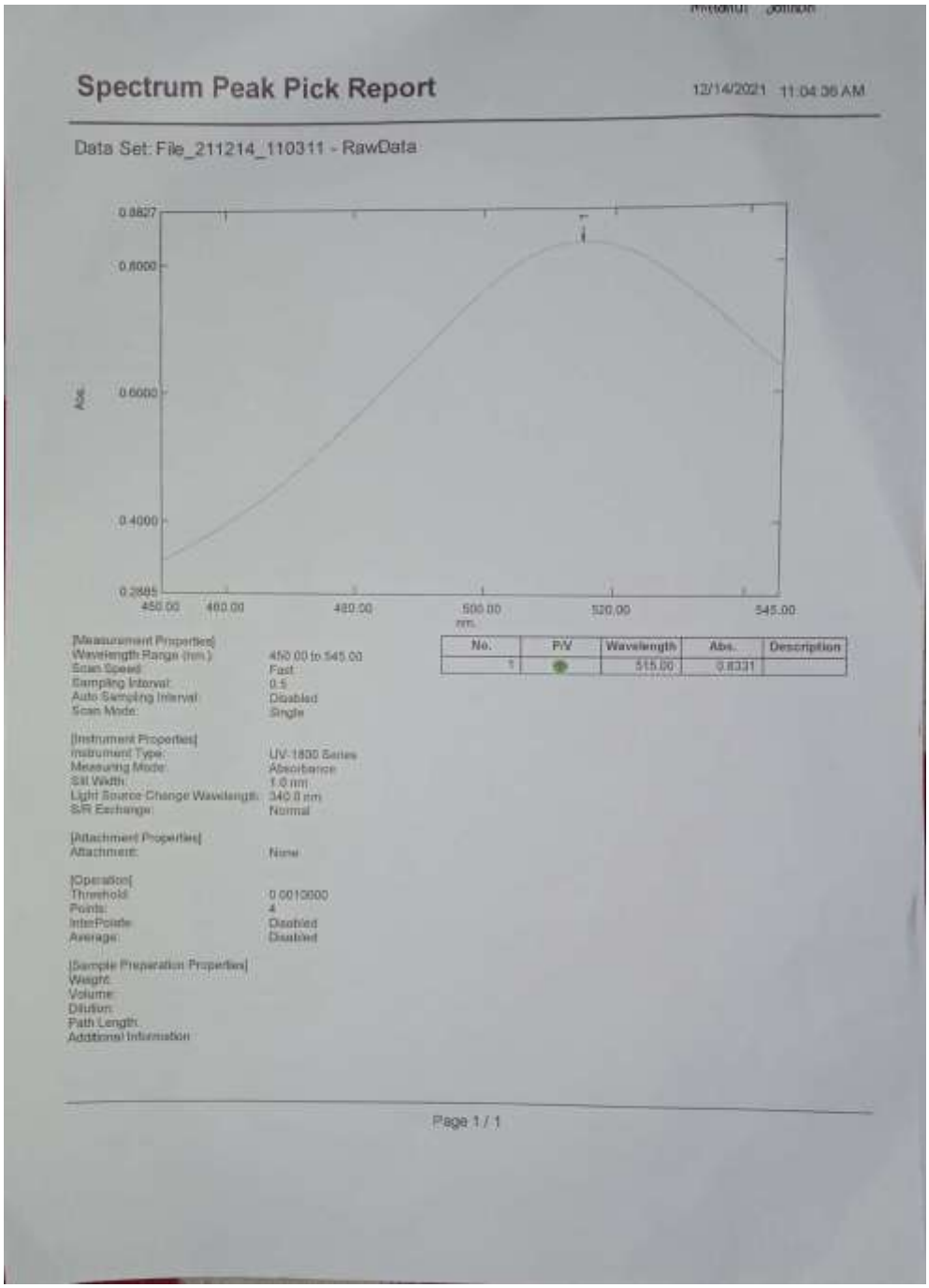
b = 0,0157728 g

= 15,772 mg

Pembuatan larutan DPPH

Serbuk DPPH ditimbang sebanyak 15,8 mg kemudian dilarutkan menggunakan etanol pro analisis (p.a) dalam tabu takar ad 100 ml. lalu di baca nilai absorbansi larutan DPPH.

Lampiran 18. Penentuan panjang gelombang DPPH



Spectrum Peak Pick Report

12/14/2021 11:04:36 AM

Data Set: File_211214_110311 - RawData

No.	P/V	Wavelength	Abs.	Description
1		515.00	0.8331	

[Measurement Properties]
Wavelength Range (nm): 450.00 to 545.00
Scan Speed: Fast
Sampling Interval: 0.5
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

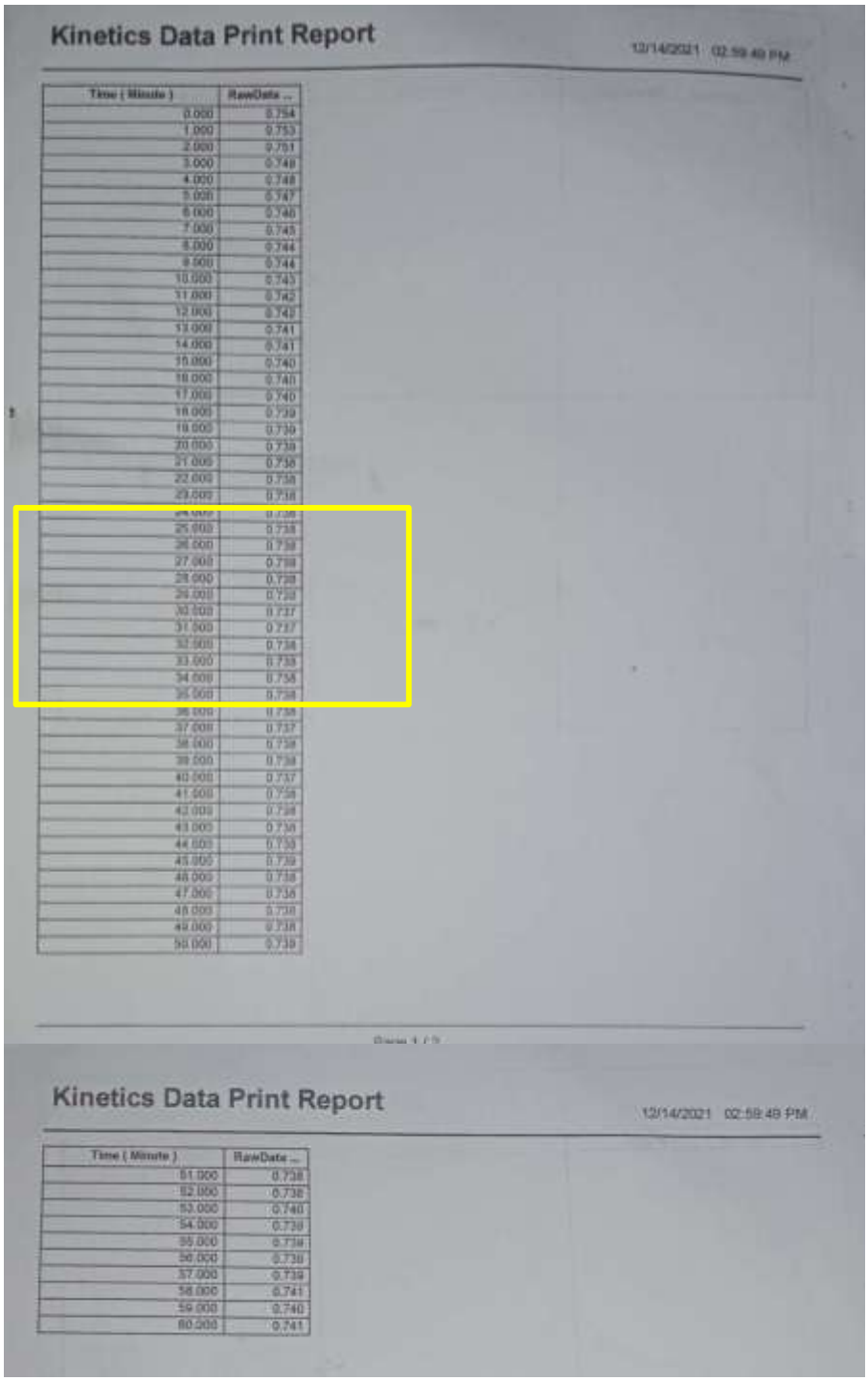
[Attachment Properties]
Attachment: None

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

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

Page 1 / 1

Lampiran 19. Penentuan *Operating time*
Hasil *Operating time* ekstrak bunga kelor



Kinetics Data Print Report

12/14/2021 02:59:49 PM

Time (Minute)	RawData ...
0.000	0.754
1.000	0.753
2.000	0.751
3.000	0.749
4.000	0.748
5.000	0.747
6.000	0.746
7.000	0.745
8.000	0.744
9.000	0.744
10.000	0.743
11.000	0.742
12.000	0.742
13.000	0.741
14.000	0.741
15.000	0.740
16.000	0.740
17.000	0.740
18.000	0.739
19.000	0.739
20.000	0.739
21.000	0.738
22.000	0.738
23.000	0.738
24.000	0.738
25.000	0.738
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	0.738
33.000	0.738
34.000	0.738
35.000	0.738
36.000	0.738
37.000	0.737
38.000	0.738
39.000	0.738
40.000	0.737
41.000	0.738
42.000	0.738
43.000	0.738
44.000	0.738
45.000	0.739
46.000	0.738
47.000	0.738
48.000	0.738
49.000	0.738
50.000	0.739

Kinetics Data Print Report

12/14/2021 02:59:49 PM

Time (Minute)	RawData ...
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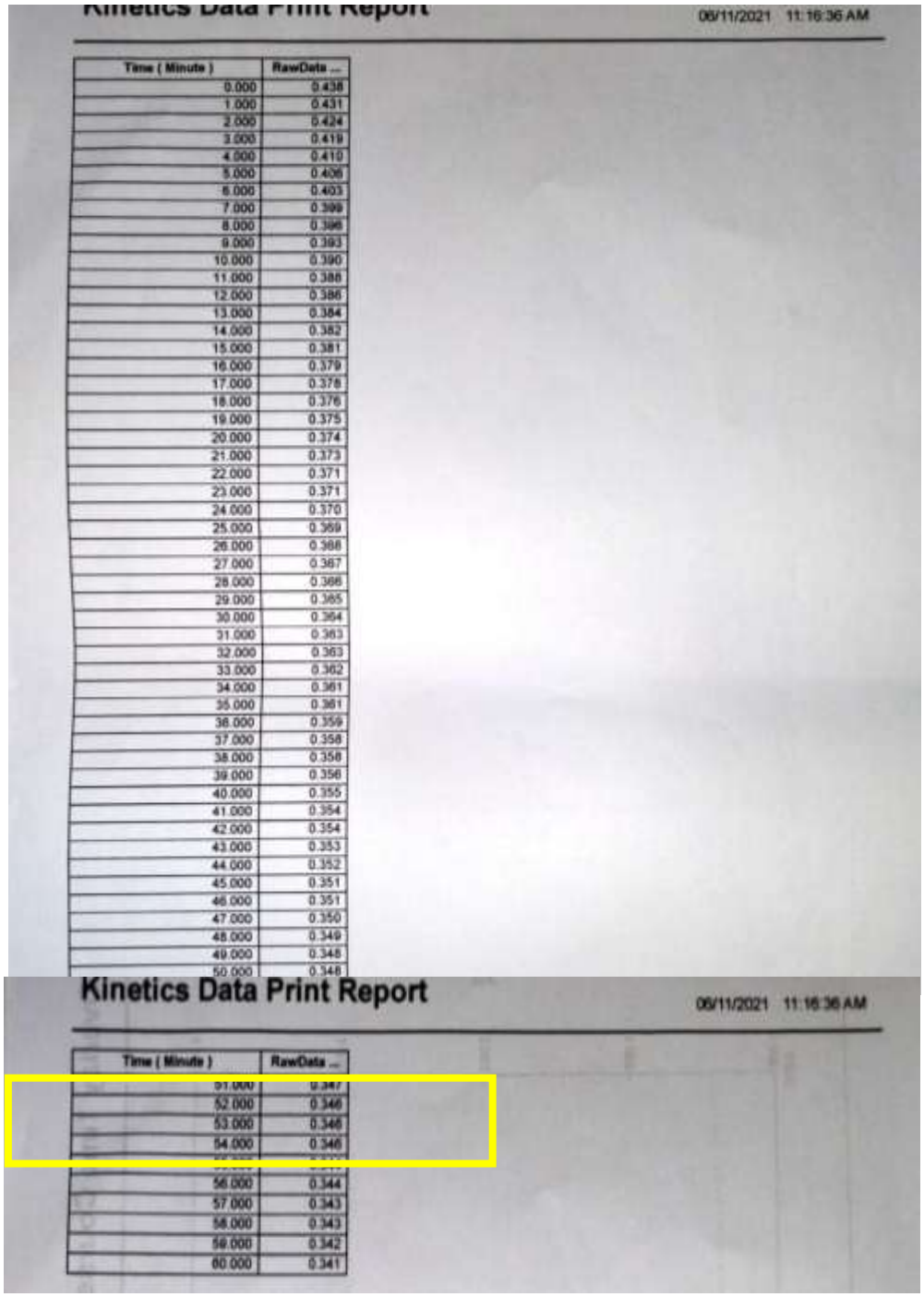
53.000	0.740
54.000	0.739
55.000	0.739
56.000	0.739
57.000	0.739
58.000	0.741
59.000	0.740
60.000	0.741

Hasil *Operating Time* Formula 1



Kinetics Data Print Report

06/11/2021 11:16:36 AM

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3.000	0.419
4.000	0.410
5.000	0.406
6.000	0.403
7.000	0.399
8.000	0.396
9.000	0.393
10.000	0.390
11.000	0.388
12.000	0.386
13.000	0.384
14.000	0.382
15.000	0.381
16.000	0.379
17.000	0.378
18.000	0.376
19.000	0.375
20.000	0.374
21.000	0.373
22.000	0.371
23.000	0.371
24.000	0.370
25.000	0.369
26.000	0.368
27.000	0.367
28.000	0.366
29.000	0.365
30.000	0.364
31.000	0.363
32.000	0.363
33.000	0.362
34.000	0.361
35.000	0.361
36.000	0.359
37.000	0.358
38.000	0.358
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41.000	0.354
42.000	0.354
43.000	0.353
44.000	0.352
45.000	0.351
46.000	0.351
47.000	0.350
48.000	0.349
49.000	0.348
50.000	0.348

Kinetics Data Print Report

06/11/2021 11:16:36 AM

Time (Minute)	RawData ...
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53.000	0.346
54.000	0.346
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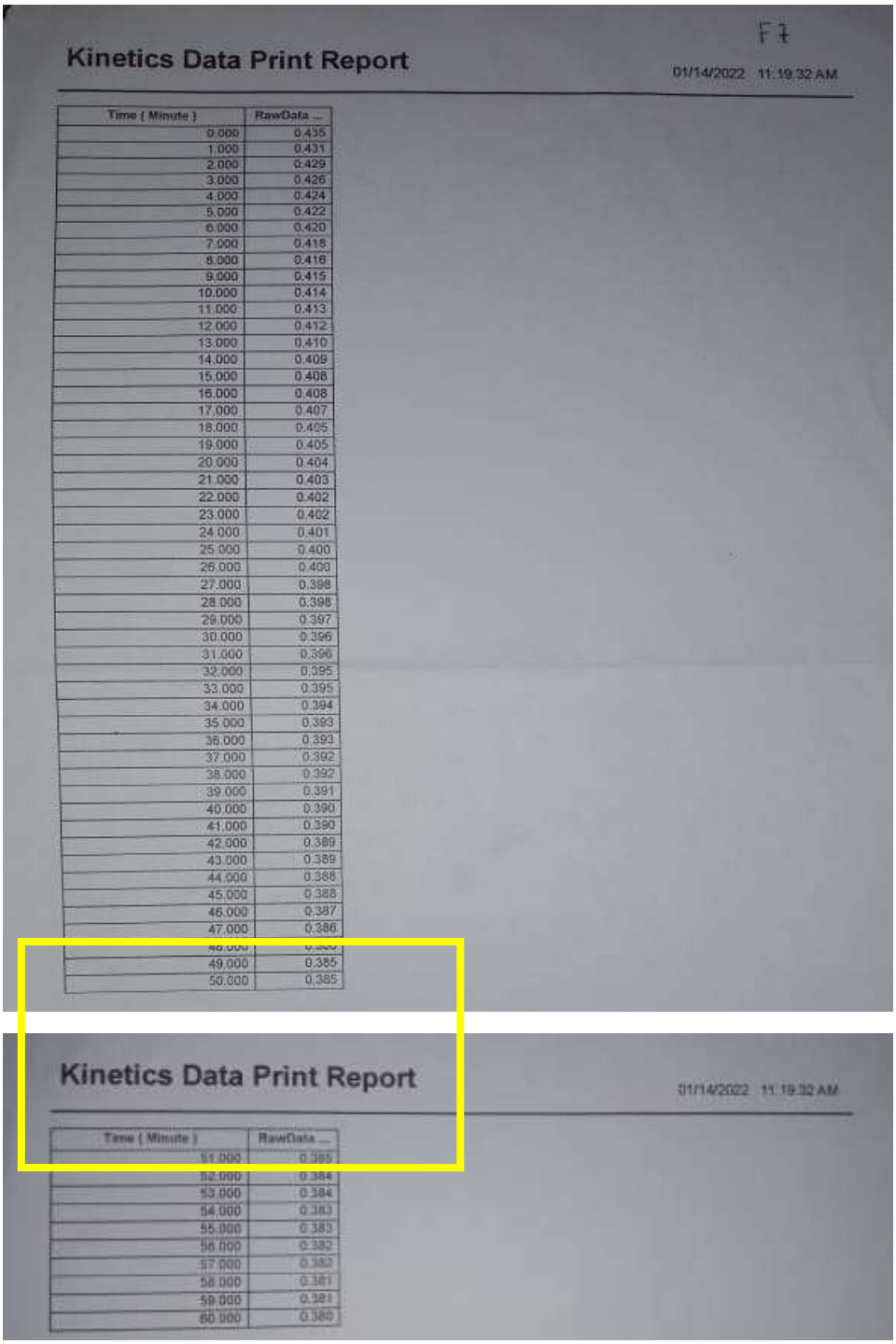
57.000	0.343
58.000	0.343
59.000	0.342
60.000	0.341

Hasil *Operating Time*Formula 7



F7

Kinetics Data Print Report

01/14/2022 11:19:32 AM

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4.000	0.424
5.000	0.422
6.000	0.420
7.000	0.418
8.000	0.416
9.000	0.415
10.000	0.414
11.000	0.413
12.000	0.412
13.000	0.410
14.000	0.409
15.000	0.408
16.000	0.408
17.000	0.407
18.000	0.405
19.000	0.405
20.000	0.404
21.000	0.403
22.000	0.402
23.000	0.402
24.000	0.401
25.000	0.400
26.000	0.400
27.000	0.399
28.000	0.398
29.000	0.397
30.000	0.396
31.000	0.396
32.000	0.395
33.000	0.395
34.000	0.394
35.000	0.393
36.000	0.393
37.000	0.392
38.000	0.392
39.000	0.391
40.000	0.390
41.000	0.390
42.000	0.389
43.000	0.389
44.000	0.388
45.000	0.388
46.000	0.387
47.000	0.386
49.000	0.385
50.000	0.385

Kinetics Data Print Report

01/14/2022 11:19:32 AM

Time (Minute)	RawData ...
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52.000	0.384
53.000	0.384
54.000	0.383
55.000	0.383
56.000	0.382
57.000	0.382
58.000	0.381
59.000	0.381
60.000	0.380

Lampiran 20. Data perhitungan pembuatan larutan stok ekstrak dan hasil uji antioksidan bunga kelor

Pembuatan larutan stok dengan menimbang 100 mg ekstrak bunga kelor dilarutkan dengan etanol pro analisis (p.a) dalam labu takar ad 100 ml, hingga diperoleh konsentrasi 1000 ppm.

Konsentrasi ekstrak bunga kelor = 100 mg/ 100 ml
= 1000 mg/ 1000 ml
= 1000 ppm

Larutan stok 1000 ppm kemudian dibuat 6 seri pengenceran yaitu 40 ppm, 60 ppm, 80 ppm, 100 ppm, 150 ppm dan 200 ppm dalam labu takar ad 10 ml.

Konsentrasi 40 ppm

V1 x C 1 = V2 x C2
V1 x 1000 ppm = 10 ml x 40 ppm
V1 = 0,4 ml

Konsentrasi 60 ppm

V1 x C1 = V2 x C2
V1 x 1000 ppm = 10 ml x 60 ppm
V1 = 0,6 ppm

Konsentrasi 80 ppm

V1 x C1 = V2 x C2
V1 x 1000 ppm = 10 ml x 80 ppm
V1 = 0,8 ml

Konsentrasi 100 ppm

V1 x C1 = V2 x C2
V1 x 1000 ppm = 10 ml x 100 ppm
V1 = 1 ml

Konsentrasi 150 ppm

V1 x C1 = V2 x C2
V1 x 1000 ppm = 10 ml x 150 ppm
V1 = 1,5 ml

Konsentrasi 200 ppm

V1 x C1 = V2 x C2
V1 x 1000 ppm = 10 ml x 200 ppm
V1 = 2 ml

Perhitungan hasil pengujian aktivitas antioksidan ekstrak bunga kelor

$$\textbf{\% Inhibisi} = \frac{\textbf{absorbansi DPPH} - \textbf{absorbansi Sampel}}{\textbf{absorbansi DPPH}} \textbf{ x 100\%}$$

Replikasi	Konsentrasi (ppm)	Abs DPPH	Abs Sampel
1	40	0,833	0.731
	60		0.685
	80		0.648
	100		0.617
	150		0.559
	200		0.397
2	40		0.733
	60		0.687
	80		0.650
	100		0.610
	150		0.557
	200		0.398
3	40		0.738
	60		0.689
	80		0.677
	100		0.605
	150		0.546
	200		0.395

Replikasi	Konsentrasi (ppm)	% Inhibisi	Regresi linier (a, b, r)	IC_{50}	Rata-rata	SD
1	40	12.2449	6.4020 0.1838 0.9970	237.22	235.47	2.04
	60	17.7671				
	80	22.2089				
	100	25.9304				
	150	32.8932				
	200	52.3409				
2	40	12.0048	6.3667 0.1844 0.9958	236.56		
	60	17.5270				
	80	21.9688				
	100	26.7707				
	150	33.1333				
	200	52.2209				
3	40	11.4046	5.0900 0.1931 0.9932	232.61		
	60	17.2869				
	80	18.7275				
	100	27.3709				
	150	34.4538				
	200	52.5810				

Perhitungan IC_{50} ekstrak bunga kelor

Y = a + bx

X = Nilai IC_{50}

Replikasi 1

$$50 = 6.4020 + 0.1838x$$

$$x = \frac{50 - 6.4020}{0.1838} = 237.22$$

Replikasi 2

$$50 = 6.3667 + 0.1844x$$

$$x = \frac{50 - 6.3667}{0.1844} = 236.56$$

Replikasi 3

$$50 = 5.0900 + 0.1931x$$

$$x = = \frac{50 - 5.0900}{0.1931} = 232.61$$

Lampiran 21. Data perhitungan pembuatan larutan stok nanosuspensi dan hasil uji antioksidan

Sediaan nanosuspensi dibuat dengan melarutkan 250 mg ekstrak bunga kelor dalam 30 ml pelarut etanol dan penstabil sehingga diketahui sediaan nanosuspensi memiliki konsentrasi sebesar 250 mg / 30 ml.

Konsentrasi nanosuspensi = 250 mg/ 30ml
= 8.333 mg / 1 ml
= 8.333 ppm

Larutan stok nanosuspensi untuk uji aktivitas sediaan dibuat konsentrasi 1000 ppm dalam 100 ml labu takar dengan melakukan pengenceran dari sediaan nanosuspensi.

Konsentrasi 1000 ppm

V1 x C1= V2 x C2
V1 x 8.333 ppm = 1000 ppm x 100 ml
V1 = 12 ml

Sehingga sediaan nanosuspensi dipipet sebanyak 12 ml di ad kan dalam labu takar 100 ml dengan etanol p.a sampai tanda batas sebagai larutan stok. Larutan stok 1000 ppm kemudian dibuat menjadi 6 seri konsentrasi pengenceran yaitu 20 ppm, 40 ppm, 60 ppm, 80 ppm, 100 ppm dan 150 ppm sebanyak 10 ml.

Konsentrasi 20 ppm

V1 x C 1 = V2 x C2
V1 x 1000 ppm = 10 ml x 20 ppm
V1 = 0,2 ml

Konsentrasi 40 ppm

V1 x C 1 = V2 x C2
V1 x 1000 ppm = 10 ml x 40 ppm
V1 = 0,4 ml

Konsentrasi 60 ppm

V1 x C 1 = V2 x C2
V1 x 1000 ppm = 10 ml x 60 ppm
V1 = 0,6 ml

Konsentrasi 80 ppm

V1 x C 1 = V2 x C2
V1 x 1000 ppm = 10 ml x 80 ppm

V1 = 0,8 ml

Konsentrasi 100 ppm

V1 x C1 = V2 x C2

V1 x 1000 ppm = 10 ml x 100 ppm

V1 = 1 ml

Konsentrasi 150 ppm

V1 x C1 = V2 x C2

V1 x 1000 ppm = 10 ml x 150 ppm

V1 = 1,5 ml

Perhitungan hasil pengujian aktivitas antioksidan sediaan nanosuspensi

% Inhibisi = $\frac{\text{absorbansi DPPH} - \text{absorbansi Sampel}}{\text{absorbansi DPPH}}$ x 100%

FORMULA 1

Replikasi	Konsentrasi (ppm)	Abs DPPH	Abs Sampel
1	20	0.783	0.639
	40		0.543
	60		0.521
	80		0.457
	100		0.399
	150		0.286
2	20		0.636
	40		0.539
	60		0.519
	80		0.449
	100		0.394
	150		0.287
3	20		0.627
	40		0.538
	60		0.523
	80		0.454
	100		0.396
	150		0.289

Replikasi	Konsentrasi (ppm)	% Inhibisi	Regresi linier (a, b, r)	IC_{50}	Rata-rata	SD
1	20	18.3908	a :14.2663 b :0.3357 r :0.9921	106.45	106.06	0.59
	40	30.6513				
	60	33.4610				
	80	41.6347				
	100	49.0421				
	150	63.4738				
2	20	18.7739	a :14.9316 b :0.3328 r :0.9903	105.38		
	40	31.1622				
	60	33.7165				
	80	42.6564				
	100	49.6807				
	150	63.3461				
3	20	19.9234	a : 15.4870 b :0.3245 c :0.9917	106.35		
	40	31.2899				
	60	33.2056				
	80	42.0179				
	100	49.4253				
	150	63.0907				

Perhitungan IC_{50} ekstrak bunga kelor

Y = a + bx

Replikasi 1

$$50 = 14.2663 + 0.3357x$$

$$x = \frac{50 - 14.2663}{0.3357} = 106.45$$

Replikasi 2

$$50 = 14.9316 + 0.3328x$$

$$x = \frac{50 - 14.9316}{0.3328} = 105.38$$

Replikasi 3

$$50 = 15.4870 + 0.3245x$$

$$x = = \frac{50 - 15.4870}{0,3245} = 106.35$$

FORMULA 7			
Replikasi	**Konsentrasi (ppm)**	**Abs DPPH**	**Abs Sampel**
1	20	0.751	0.631
	40		0.534
	60		0.522
	80		0.421
	100		0.382
	150		0.222
2	20		0.633
	40		0.547
	60		0.529
	80		0.424
	100		0.385
	150		0.220
3	20		0.639
	40		0.545
	60		0.528
	80		0.426
	100		0.381
	150		0.225

Replikasi	**Konsentrasi (ppm)**	**% Inhibisi**	**Regresi linier (a, b, r)**	**IC_{50}**	**Rata-rata**	**SD**
1	20	15.9787	a :**9.2311** b :0.4078 r :0.9921	99.91	100.66	0.61
	40	28.8948				
	60	30.4927				
	80	43.9414				
	100	49.1345				
	150	70.4394				
2	20	15.7124	a : 7.9759 b :0.4168 r :0.99336	100.82		
	40	27.1638				
	60	29.5606				
	80	43.5419				
	100	48.7350				
	150	70.7057				
3	20	14.9134	a : 7.8799 b :0.4163 c :0.9935	101.17		
	40	27.4301				
	60	29.6937				
	80	43.2756				
	100	49.2676				
	150	70.0399				

Perhitungan IC_{50} ekstrak bunga kelor

Y = a + bx

X = Nilai IC_{50}

Replikasi 1

$$50 = 9.2311 + 0.4078x$$

$$x = \frac{50 - 0.4078}{0.4078} = 99.91$$

Replikasi 2

$$50 = 7.9759 + 0.4168x$$

$$x = \frac{50 - 7.9759}{0.4168} = 100.82$$

Replikasi 3

$$50 = 7.8799 + 0.4163x$$

$$x = = \frac{50 - 7.8799}{0.4163} = 101.17$$

Lampiran 22. Hasil uji ANOVA aktivitas antioksidan nanosuspensi

Tests of Normality

		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Formula	Statistic	df	Sig.	Statistic	Df	Sig.
IC50	Ekstrak	.337	3	.	.855	3	.254
	Formula 1	.355	3	.	.819	3	.162
	Formula 7	.271	3	.	.948	3	.559

a. Lilliefors Significance Correction

Hasil uji homogenitas

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
IC50	Based on Mean	.000	1	4	.996
	Based on Median	.011	1	4	.922
	Based on Median and with adjusted df	.011	1	3.803	.922
	Based on trimmed mean	.000	1	4	.995

Hasil uji ANOVA

ANOVA

IC50

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	43.749	1	43.749	120.641	.000
Within Groups	1.451	4	.363		
Total	45.199	5			

Lampiran 23. Pembuatan Nanosuspensi

<table>
<tr>
<td> 

Stabilizer nanosuspensi</td>
<td> 
Fase organik (ekstrak + etanol 70%)</td>
<td> 
Pembuatan nanosuspensi ekstrak bunga kelor</td>
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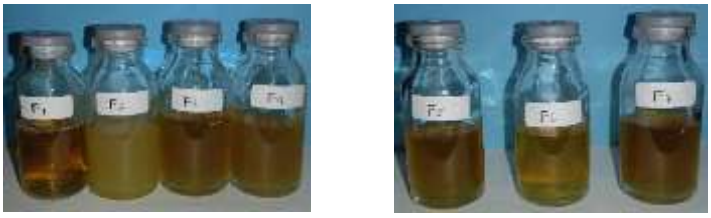
<td colspan="3"> 
Formula 1-7 nanosuspensi ekstrak bunga kelor</td>
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