L A M P I R A N

Lampiran 10. Hasil Determinasi Tanaman

KEMENTERIAN KESEHATAN REPUBLIK INDONESIA
BADAN PENELITIAN DAN PENGEMBANGAN KESEHATAN
BALAI BESAR PENELITIAN DAN PENGEMBANGAN
TANAMAN OBAT DAN OBAT TRADISIONAL
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Nomor : YK.01.03/2/1891/2020 23 September 2020
Hal : Keterangan Determinasi

Yth. Dekan Fakultas Farmasi
Universitas Setia Budi
Jalan Let. Jend. Sutoyo
Solo 57127

Merujuk surat Saudara nomor: 128/H6 – 04/26.08.2020 tanggal 26 Agustus 2020 hal permohonan determinasi, dengan ini kami sampaikan bahwa hasil determinasi sampel tanaman sebagai berikut:

Nama Pemohon	:	Petrick Gilang Pambudi
Nama Sampel	:	Strawberry
Sampel	:	Tanaman Segar
Spesies	:	*Fragaria x ananassa* (Duchesne ex Weston) Duchesne ex Rozier
Sinonim	:	*Fragaria caroliniana* Poit. & Turpin; *Fragaria x grandiflora* Ehrh.
Familia	:	Rosaceae
Penanggung Jawab	:	Nur Rahmawati Wijaya, S.Si.

Hasil determinasi tersebut hanya mencakup sampel tanaman yang telah dikirimkan ke B2P2TOOT.

Atas perhatian Saudara, kami sampaikan terima kasih.

Kepala Balai Besar Litbang
Tanaman Obat dan Obat Tradisional,

Akhmad Saikhu, MSc.PH.
NIP 196805251992031004

Lampiran 11. Rangkaian kegiatan ekstraksi

Proses pembuatan serbuk halus daun strberi dan ekstraksi

Tanaman stroberi

Daun stroberi

Pencucian daun stroberi

Pengeringan daun stroberi

Penyerbukan daun stroberi

Serbuk halus daun stroberi

Proses ekstraksi daun stroberi

Proses ekstraksi metode refluk

Ekstrak etanol kental

Lampiran 12. Pengujian serbuk dan ekstrak daun stroberi

Kadar lembab ekstrak

Lampiran 13. pengujian fitokimia

Ekstrak etanol

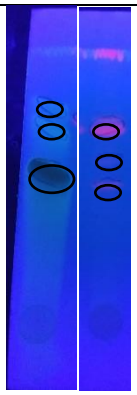
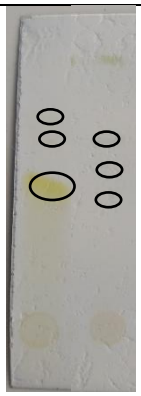
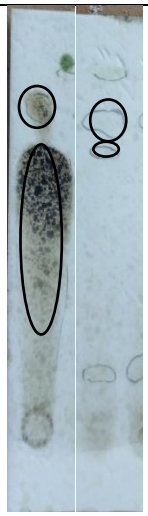
Uji tanin dan polifenol (+)

Uji steroid/triterpenoid (-)

Uji flavanoid (+)

Uji saponin serbuk (-)

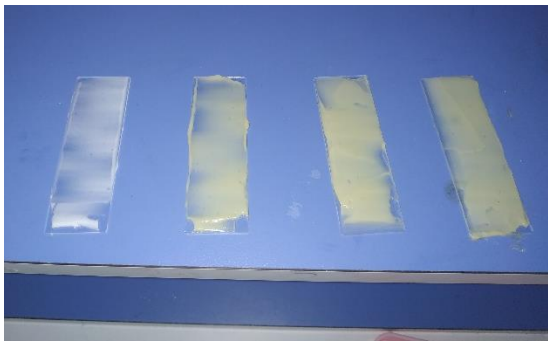
Lampiran 14. Uji kandungana kimia dengan KLT

	UV 254	UV 366	Pereaksi sitroborat
Uji flavonoid	 * **	 * **	 * **
	UV 254	UV 366	Pereaksi $FeCl_3$
Uji tannin	 * **	 * **	 * **

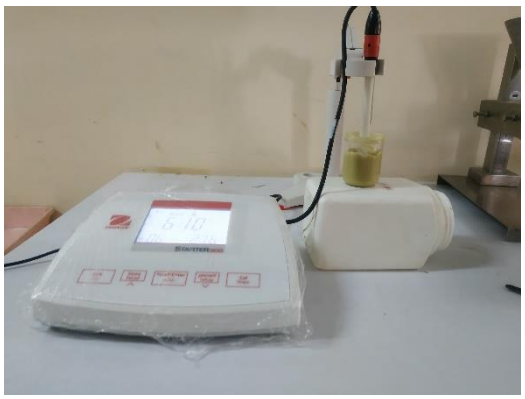
Keterangan: * = kromatogram baku pembanding
** = kromatogram ekstrak etanol daun stroberi

Lampiran 15. uji mutu fisik sediaan

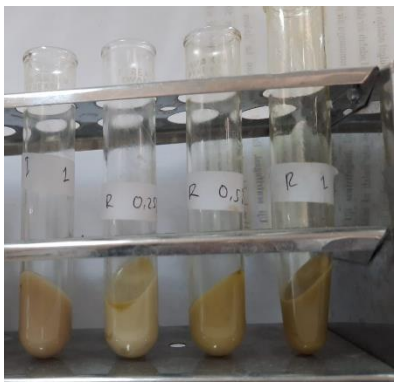
Sediaan krim



Uji homogenitas



Pemeriksaan *pH*

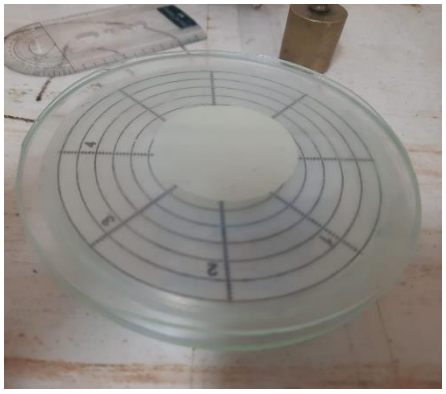


Uji sentrifugasi

Pengujian daya lekat

Uji viskositas

Pengujian tipe krim



Uji daya sebar

Lampiran 16. Perhitungan rendemen simplisia daun stroberi

Daun stroberi basah : 5000 gram

Daun stroberi kering : 3000 gram

Presentase rendemen daun stroberi

Rumus $= \frac{\text{bobot kering (gram)}}{\text{bobot basah (gram)}} \; x \; 100$

$= \frac{3000 \text{ gram}}{5000 \text{ gram}} \; x \; 100$

= 60 %

Lampiran 17. Perhitungan rendemen serbuk terhadap daun stroberi kering

Daun stroberi kering = 3000 gram

Serbuk halus daun stroberi = 1000 gram

Rumus $= \frac{\text{bobot serbuk (gram)}}{\text{bobot kering (gram)}} \; x \; 100$

$= \frac{1000 \text{ gram}}{3000 \text{ gram}} \; x \; 100$

= 33,3 %

Lampiran 18.Perhitungan rendemen ekstrak etanol terhadap serbuk

Serbuk halus daun stroberi = 100 gram

Ekstrak etanol daun stroberi = 20,5578

Rumus $= \frac{\text{bobot ekstrak (gram)}}{\text{bobot serbuk (gram)}} \; x \; 100$

$= \frac{20{,}5578 \text{ gram}}{100 \text{ gram}} \; x \; 100$

= 20,5578 %

Lampiran 10. Data uji statistic daya lekat

One-Sample Kolmogorov-Smirnov Test

		Daya_lekat
N		24
Normal Parameters[a,b]	Mean	3,7908
	Std. Deviation	,18294
Most Extreme Differences	Absolute	,208
	Positive	,208
	Negative	-,135
Kolmogorov-Smirnov Z		1,020
Asymp. Sig. (2-tailed)		,249

a. Test distribution is Normal.
b. Calculated from data.

Levene's Test of Equality of Error Variances[a]

Dependent Variable: Daya_lekat

F	df1	df2	Sig.
,471	7	16	,842

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
a. Design: Intercept + Formula + Hari + Formula * Hari

Daya_lekat

Tukey HSD[a,b]

Formula	N	Subset		
		1	2	3
F2	6	3,5717		
F3	6		3,7633	
F1	6		3,7650	
K(-)	6			4,0633
Sig.		1,000	,998	1,000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = ,000.
a. Uses Harmonic Mean Sample Size = 6,000.
b. Alpha = ,05.

Lampiran 11. Data uji statistik *pH*

One-Sample Kolmogorov-Smirnov Test

		pH
N		24
Normal Parameters[a,b]	Mean	7,6492
	Std. Deviation	,09518
Most Extreme Differences	Absolute	,148
	Positive	,123
	Negative	-,148
Kolmogorov-Smirnov Z		,724
Asymp. Sig. (2-tailed)		,670

a. Test distribution is Normal.
b. Calculated from data.

Levene's Test of Equality of Error Variances[a]

Dependent Variable: pH

F	df1	df2	Sig.
,847	7	16	,566

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
a. Design: Intercept + Formula + Hari + Formula * Hari

pH

Tukey HSD[a,b]

Formula	N	Subset			
		1	2	3	4
F1	6	7,5383			
F2	6		7,6067		
F3	6			7,6617	
K(-)	6				7,7900
Sig.		1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = ,000.
a. Uses Harmonic Mean Sample Size = 6,000.
b. Alpha = ,05.

Lampiran 12. Data uji statistik viskositas

One-Sample Kolmogorov-Smirnov Test

		Viskositas
N		24
Normal Parameters[a,b]	Mean	124,38
	Std. Deviation	14,841
Most Extreme Differences	Absolute	,150
	Positive	,150
	Negative	-,100
Kolmogorov-Smirnov Z		,734
Asymp. Sig. (2-tailed)		,654

a. Test distribution is Normal.
b. Calculated from data.

Levene's Test of Equality of Error Variances[a]

Dependent Variable: Viskositas

F	df1	df2	Sig.
,000	7	16	1,000

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
a. Design: Intercept + Formula + Hari + Formula * Hari

Viskositas

Tukey HSD[a,b]

Formula	N	Subset		
		1	2	3
F3	6	106,67		
F2	6		126,67	
K(-)	6		126,67	
F1	6			137,50
Sig.		1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 8,333.
a. Uses Harmonic Mean Sample Size = 6,000.
b. Alpha = ,05.

Lampiran 13. Data uji statistik daya sebar

Levene's Test of Equality of Error Variances[a]

Dependent Variable: Daya_sebar

F	df1	df2	Sig.
,147	7	24	,993

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Formula + Hari + Formula * Hari

Daya_sebar

Tukey HSD[a,b]

Formula	N	Subset 1
F1	8	5,6338
F3	8	5,7675
K(-)	8	5,8950
F2	8	6,1500
Sig.		,752

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = 1,072.

a. Uses Harmonic Mean Sample Size = 8,000.

b. Alpha = ,05.

Lampiran 14. Data uji statistik *freeze and thaw Ph*

One-Sample Kolmogorov-Smirnov Test

		pH
N		24
Normal Parameters[a,b]	Mean	7,6221
	Std. Deviation	,09381
Most Extreme Differences	Absolute	,112
	Positive	,112
	Negative	-,088
Kolmogorov-Smirnov Z		,550
Asymp. Sig. (2-tailed)		,923

a. Test distribution is Normal.
b. Calculated from data.

Levene's Test of Equality of Error Variances[a]

Dependent Variable: pH

F	df1	df2	Sig.
,580	7	16	,763

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
a. Design: Intercept + Formula + Hari + Formula * Hari

pH

Tukey HSD[a,b]

Formula	N	Subset			
		1	2	3	4
F1	6	7,5217			
F2	6		7,5833		
F3	6			7,6300	
K(-)	6				7,7533
Sig.		1,000	1,000	1,000	1,000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = ,000.
a. Uses Harmonic Mean Sample Size = 6,000.
b. Alpha = ,05.

viskositas

One-Sample Kolmogorov-Smirnov Test

		Viskositas
N		24
Normal Parameters[a,b]	Mean	111,88
	Std. Deviation	11,211
Most Extreme Differences	Absolute	,193
	Positive	,105
	Negative	-,193
Kolmogorov-Smirnov Z		,946
Asymp. Sig. (2-tailed)		,332

a. Test distribution is Normal.
b. Calculated from data.

Test of Homogeneity of Variances

Viskositas

Levene Statistic	df1	df2	Sig.
,990	3	20	,418

Viskositas

Tukey HSD[a]

Formula	N	Subset for alpha = 0.05		
		1	2	3
F3	6	97,50		
F2	6		110,00	
F1	6		118,33	118,33
K(-)	6			121,67
Sig.		1,000	,137	,799

Means for groups in homogeneous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 6,000.

Lampiran 15. Data uji statistik SPF

Perhitungan nilai SPF formula 1

Panjang gelombang	**serapan**	EE X I	Abs X EE X I	CF	SPF
290	0.5383	0.015	0.0080745		
295	0.5313	0.0817	0.04340721		
300	0.476	0.2874	0.1368024		
305	0.5243	0.3278	0.17186554	11.105	5.652
310	0.5205	0.1864	0.0970212		
315	0.5114	0.0839	0.04290646		
320	0.4974	0.018	0.0089532		
			0.50903051		5.6527
			NILAI SPF:		**28.26**

Panjang gelombang	**serapan**	EE X I	Abs X EE X I	CF	SPF
290	0.6052	0.015	0.009078		
295	0.5953	0.0817	0.04863601		
300	0.5224	0.2874	0.15013776		
305	0.5531	0.3278	0.18130618	11.105	5.980270486
310	0.5226	0.1864	0.09741264		
315	0.5146	0.0839	0.04317494		
320	0.4875	0.018	0.008775		
			0.53852053		5.980270486
			NILAI SPF:		**29.90**

Panjang gelombang	**serapan**	EE X I	Abs X EE X I	CF	SPF
290	0.6125	0.015	0.0091875		
295	0.5766	0.0817	0.04710822		
300	0.5398	0.2874	0.15513852		
305	0.5351	0.3278	0.17540578	11.105	5.971718192
310	0.5264	0.1864	0.09812096		
315	0.5198	0.0839	0.04361122		
320	0.5099	0.018	0.0091782		
			0.5377504		5.971718192
			NILAI SPF:		**29.85**

Perhitungan nilai SPF formula 2

Panjang gelombang	**serapan**	EE X I	Abs X EE X I	CF	SPF
290	0.7218	0.015	0.010827		
295	0.6749	0.0817	0.05513933		
300	0.6543	0.2874	0.18804582		
305	0.6437	0.3278	0.21100486	11.105	7.168929586
310	0.6315	0.1864	0.1177116		
315	0.6189	0.0839	0.05192571		
320	0.6058	0.018	0.0109044		
			0.64555872		7.168929586
			NILAI SPF:		**35.84**

Panjang gelombang	**serapan**	EE X I	Abs X EE X I	CF	SPF
290	0.7346	0.015	0.011019		
295	0.7016	0.0817	0.05732072		
300	0.6825	0.2874	0.1961505		
305	0.6504	0.3278	0.21320112	11.105	7.288052365
310	0.6332	0.1864	0.11802848		
315	0.6115	0.0839	0.05130485		
320	0.5145	0.018	0.009261		
			0.65628567		7.288052365
			NILAI SPF:		**36.44**

Panjang gelombang	**serapan**	EE X I	Abs X EE X I	CF	SPF
290	0.7245	0.015	0.0108675		
295	0.6946	0.0817	0.05674882		
300	0.6578	0.2874	0.18905172		
305	0.6548	0.3278	0.21464344	11.105	7.156630798
310	0.6125	0.1864	0.11417		
315	0.5946	0.0839	0.04988694		
320	0.5046	0.018	0.0090828		
			0.64445122		7.156630798
			NILAI SPF:		**35.78**

Perhitungan nilai SPF formula 3

Panjang gelombang	**serapan**	EE X I	Abs X EE X I	CF	SPF
290	0.9476	0.015	0.014214		
295	0.9531	0.0817	0.07786827		
300	0.9567	0.2874	0.27495558		
305	0.959	0.3278	0.3143602	11.105	10.60604213
310	0.9583	0.1864	0.17862712		
315	0.9389	0.0839	0.07877371		
320	0.9039	0.018	0.0162702		
			0.95506908		10.60604213
			NILAI SPF:		**53.03**

Panjang gelombang	**serapan**	EE X I	Abs X EE X I	CF	SPF
290	0.9866	0.015	0.014799		
295	0.9742	0.0817	0.07959214		
300	0.9535	0.2874	0.2740359		
305	0.9312	0.3278	0.30524736	11.105	10.54206312
310	0.9698	0.1864	0.18077072		
315	0.9332	0.0839	0.07829548		
320	0.9204	0.018	0.0165672		
			0.9493078		10.54206312
			NILAI SPF:		**52.71**

Panjang gelombang	**serapan**	EE X I	Abs X EE X I	CF	SPF
290	1.045	0.015	0.015675		
295	0.9964	0.0817	0.08140588		
300	0.9765	0.2874	0.2806461		
305	0.9461	0.3278	0.31013158	11.105	10.5976834
310	0.9265	0.1864	0.1726996		
315	0.9198	0.0839	0.07717122		
320	0.9215	0.018	0.016587		
			0.95431638		10.5976834
			NILAI SPF:		**52.98**

Kontrol negatif

Panjang gelombang	serapan	EE X I	Abs X EE X I	CF	SPF
290	0.0612	0.015	0.000918166		
295	0.0556	0.0817	0.004540102		
300	0.0450	0.2874	0.012928804		
305	0.0448	0.3278	0.014689931	11.105	0.509273473
310	0.0447	0.1864	0.008337271		
315	0.0439	0.0839	0.003680638		
320	0.0425	0.018	0.000764924		
			0.045859835		0.509273473
			NILAI SPF:		**2.55**

Panjang gelombang	serapan	EE X I	Abs X EE X I	CF	SPF
290	0.0504	0.015	0.000756137		
295	0.0401	0.0817	0.003277543		
300	0.0370	0.2874	0.01064725		
305	0.0369	0.3278	0.01209759	11.105	0.414278228
310	0.0368	0.1864	0.006865988		
315	0.0361	0.0839	0.003031114		
320	0.0350	0.018	0.000629937		
			0.037305559		0.414278228
			NILAI SPF:		**2.07**

Panjang gelombang	serapan	EE X I	Abs X EE X I	CF	SPF
290	0.0511	0.015	0.000766938		
295	0.0437	0.0817	0.003574133		
300	0.0376	0.2874	0.010799354		
305	0.0374	0.3278	0.012270413	11.105	0.422970169
310	0.0374	0.1864	0.006964074		
315	0.0366	0.0839	0.003074416		
320	0.0355	0.018	0.000638936		
			0.038088264		0.422970169
			NILAI SPF:		**2.11**

Kontrol positif

Panjang gelombang	serapan	EE X I	Abs X EE X I	CF	SPF
290	0.6483	0.015	0.0097245	11.10462	30
295	0.6315	0.0817	0.05159355		
300	0.6099	0.2874	0.17528526		
305	0.5309	0.3278	0.17402902		
310	0.4699	0.1864	0.08758936		
315	0.4271	0.0839	0.03583369		
320	0.3478	0.018	0.0062604		
			0.54031578		
			2.7015789		

Panjang gelombang	serapan	EE X I	Abs X EE X I	CF	SPF
290	0.6421	0.015	0.0096315	11.10458	30
295	0.6294	0.0817	0.05142198		
300	0.6024	0.2874	0.17312976		
305	0.5403	0.3278	0.17711034		
310	0.4637	0.1864	0.08643368		
315	0.4307	0.0839	0.03613573		
320	0.3586	0.018	0.0064548		
			0.54031779		
			2.70158895		

Panjang gelombang	serapan	EE X I	Abs X EE X I	CF	SPF
290	0.651	0.015	0.009765	11.10541	30
295	0.6314	0.0817	0.05158538		
300	0.6002	0.2874	0.17249748		
305	0.5396	0.3278	0.17688088		
310	0.4623	0.1864	0.08617272		
315	0.4377	0.0839	0.03672303		
320	0.3696	0.018	0.0066528		
			0.54027729		
			2.70138645		

Penentuan nilai spf ekstrak etanol 0,25%

Panjang Gelombang	Abs	EE X I	Abs X EE X I	CF	SPF
290	0.7243	0.015	0.0109		
295	0.6845	0.0817	0.0559		
300	0.6548	0.2874	0.1882		
305	0.6277	0.3278	0.2058	11.105	7.004
310	0.6020	0.1864	0.1122		
315	0.5728	0.0839	0.0481		
320	0.5388	0.018	0.0097		
			0.6307		
				SPF=	**35.02**

Panjang Gelombang	Abs	EE X I	Abs X EE X I	CF	SPF
290	0.7037	0.015	0.0106		
295	0.6973	0.0817	0.0570		
300	0.6621	0.2874	0.1903		
305	0.6352	0.3278	0.2082	11.105	7.09145
310	0.6033	0.1864	0.1125		
315	0.5965	0.0839	0.0500		
320	0.5583	0.018	0.0100		
			0.6386		
				SPF=	**35.4573**

Panjang Gelombang	Abs	EE X I	Abs X EE X I	CF	SPF
290	0.6974	0.015	0.0105		
295	0.6966	0.0817	0.0569		
300	0.6346	0.2874	0.1824		
305	0.6254	0.3278	0.2050	11.105	6.95836
310	0.6009	0.1864	0.1120		
315	0.5997	0.0839	0.0503		
320	0.5284	0.018	0.0095		
			0.6266		
				SPF=	**34.7918**

Penentuan nilai spf ekstrak etanol 0,5%

Panjang Gelombang	Abs	EE X I	Abs X EE X I	CF	SPF
290	0.9733	0.015	0.0146		
295	0.8966	0.0817	0.0733		
300	0.8507	0.2874	0.2445		
305	0.8107	0.3278	0.2657	11.105	9.10423
310	0.7785	0.1864	0.1451		
315	0.7553	0.0839	0.0634		
320	0.7365	0.018	0.0133		
			0.8198		
				SPF=	**45.52115**

Panjang Gelombang	Abs	EE X I	Abs X EE X I	CF	SPF
290	0.9632	0.015	0.0144		
295	0.9073	0.0817	0.0741		
300	0.8845	0.2874	0.2542		
305	0.7837	0.3278	0.2569	11.105	9.083816
310	0.7645	0.1864	0.1425		
315	0.7463	0.0839	0.0626		
320	0.7333	0.018	0.0132		
			0.8180		
				SPF=	**45.41908**

Panjang Gelombang	Abs	EE X I	Abs X EE X I	CF	SPF
290	0.9753	0.015	0.0146		
295	0.8794	0.0817	0.0718		
300	0.8399	0.2874	0.2414		
305	0.7765	0.3278	0.2545	11.105	8.916142
310	0.7698	0.1864	0.1435		
315	0.7588	0.0839	0.0637		
320	0.7409	0.018	0.0133		
			0.8029		
				SPF=	**44.58071**

Penentuan nilai spf ekstrak etanol 0,5%

Panjang Gelombang	Abs	EE X I	Abs X EE X I	CF	SPF
290	1.2824	0.015	0.0192		
295	1.1884	0.0817	0.0971		
300	1.1269	0.2874	0.3239		
305	1.0777	0.3278	0.3533	11.105	12.0781
310	1.0313	0.1864	0.1922		
315	1.0044	0.0839	0.0843		
320	0.9797	0.018	0.0176		
			1.0876		12.0781
				SPF=	**60.39048**

Panjang Gelombang	Abs	EE X I	Abs X EE X I	CF	SPF
290	1.2599	0.015	0.0189		
295	1.1578	0.0817	0.0946		
300	1.1023	0.2874	0.3168		
305	1.0980	0.3278	0.3599	11.105	11.96959
310	1.0052	0.1864	0.1874		
315	1.0021	0.0839	0.0841		
320	0.8997	0.018	0.0162		
			1.0779		
				SPF=	**59.84797**

Panjang Gelombang	Abs	EE X I	Abs X EE X I	CF	SPF
290	1.2898	0.015	0.0193		
295	1.2034	0.0817	0.0983		
300	1.1501	0.2874	0.3305		
305	1.1215	0.3278	0.3676	11.105	12.26226
310	1.0090	0.1864	0.1881		
315	0.9987	0.0839	0.0838		
320	0.9173	0.018	0.0165		
			1.1042		
				SPF=	**61.31132**

One-Sample Kolmogorov-Smirnov Test

		SPF
N		21
Normal Parameters[a,b]	Mean	31,0071
	Std. Deviation	21,59537
Most Extreme Differences	Absolute	,180
	Positive	,180
	Negative	-,164
Kolmogorov-Smirnov Z		,826
Asymp. Sig. (2-tailed)		,502

a. Test distribution is Normal.
b. Calculated from data.

Test of Homogeneity of Variances

SPF

Levene Statistic	df1	df2	Sig.
6,703	6	14	,052

SPF

Tukey HSD[a]

formula	N	Subset for alpha = 0.05			
		1	2	3	4
K(-)	3	2,2433			
EKSTRAK ETANOL F1	3		29,3400		
K(+)	3		30,0000		
F2	3			36,0200	
F3	3				53,5767
Sig.		,283	,863	1,000	1,000

Means for groups in homogeneous subsets are displayed.
a. Uses Harmonic Mean Sample Size = 3,000.