L A M P I R A N

Lampiran 1. 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.01.03/2/1892/2020 23 September 2020
Hal : Keterangan Determinasi

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

Merujuk surat Saudara nomor: 129/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	:	Detyari Faza Auliya
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,

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NIP 196805251992031004

Lampiran 2. Proses pembuatan serbuk halus dan ekstrak daun stroberi

Tanaman stroberi

Daun stroberi

Pencucian daun stroberi

Pengeringan daun stroberi

Penyerbukan daun stroberi

Serbuk halus daun stroberi

Proses ekstraksi metode refluks

Ekstrak etanol kental

Lampiran 3. Perhitungan rendemen simplisia daun stroberi

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 4. Perhitungan rendemen ekstrak etanol terhadap serbuk

Serbuk halus daun stroberi = 100 gram

Ekstrak etanol daun stroberi = 10,8256 gram

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

= $\frac{20{,}8256 \text{ gram}}{100 \text{ gram}} \; x \; 100$

= 20,82 %

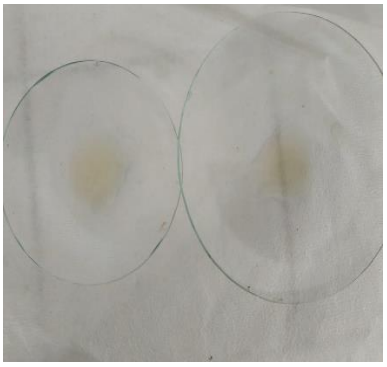
Lampiran 5. Pengujian mutu fisik serbuk dan esktrak

Kadar lembab dengan *moistur balance*

Lampiran 6. Pengujian fitokimia

Uji flavonoid +

Uji tannin +

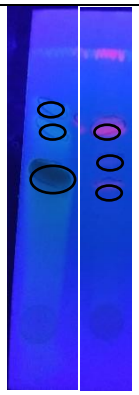
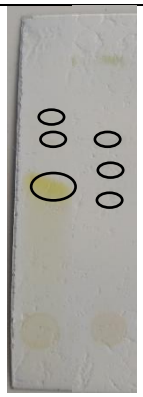


Uji alkaloid -

Uji steroid/triterpenoid -

Uji saponin -

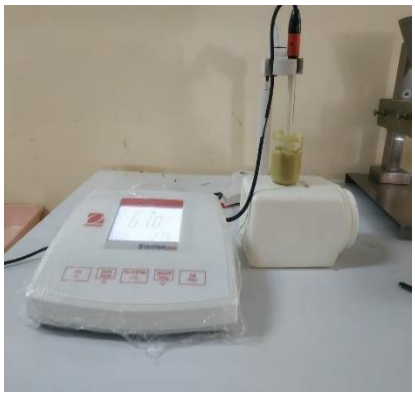
Lampiran 7. Pengujian kandungan kimia dengan KLT

	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 8. Sediaan emulgel dan uji mutu fisik

Sediaan emulgel

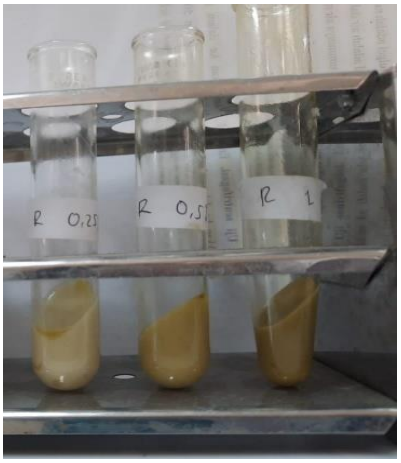


Uji *pH*

uji viskositas

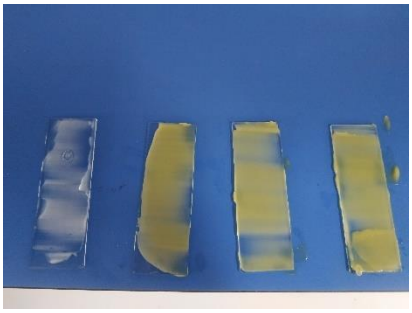
Uji daya lekat

Uji daya sebar



Uji sentrifugasai

Uji tipe krim



Uji homogenitas

Lampiran 9. Analisis SPSS daya lekat

One-Sample Kolmogorov-Smirnov Test

		formula	hari	daya_lekat
N		18	18	18
Normal Parameters[a,b]	Mean	2,00	1,50	3,6900
	Std. Deviation	,840	,514	,10666
Most Extreme Differences	Absolute	,216	,334	,159
	Positive	,216	,334	,134
	Negative	-,216	-,334	-,159
Kolmogorov-Smirnov Z		,918	1,419	,675
Asymp. Sig. (2-tailed)		,368	,036	,752

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.
,965	5	12	,477

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	Subset 2	Subset 3
F3	6	3,5750		
F2	6		3,6733	
F1	6			3,8217
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) = 8.89E-005.
a. Uses Harmonic Mean Sample Size = 6.000.
b. Alpha = ,05.

Lampiran 10. Analisis SPSS daya sebar

One-Sample Kolmogorov-Smirnov Test

		formula	hari	daya_sebar
N		24	24	24
Normal Parameters[a,b]	Mean	2,00	1,50	5,5171
	Std. Deviation	,834	,511	,66278
Most Extreme Differences	Absolute	,218	,336	,114
	Positive	,218	,336	,107
	Negative	-,218	-,336	-,114
Kolmogorov-Smirnov Z		1,068	1,647	,560
Asymp. Sig. (2-tailed)		,204	,009	,913

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

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

Dependent Variable: daya_sebar

F	df1	df2	Sig.
,007	5	18	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

daya_sebar

Tukey HSD[a,b]

formula	N	Subset 1
F3	8	5,1725
F2	8	5,6275
F1	8	5,7513
Sig.		,242

Means for groups in homogeneous subsets are displayed.

Based on observed means.

The error term is Mean Square(Error) = .478.

a. Uses Harmonic Mean Sample Size = 8.000.

b. Alpha = ,05.

Lampiran 11. Analisis SPSS uji viskositas

One-Sample Kolmogorov-Smirnov Test

		formula	hari	viskositas
N		18	18	18
Normal Parameters[a,b]	Mean	2.00	1.50	106.1111
	Std. Deviation	.840	.514	15.10313
Most Extreme Differences	Absolute	.216	.334	.111
	Positive	.216	.334	.086
	Negative	-.216	-.334	-.111
Test Statistic		.216	.334	.111
Asymp. Sig. (2-tailed)		.026[c]	.000[c]	.200[c,d]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.

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

Dependent Variable: viskositas

F	df1	df2	Sig.
.000	5	12	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	Subset 2	Subset 3
F3	6	92.5000		
F2	6		106.6667	
F1	6			119.1667
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 12. Analisis SPSS uji pH

One-Sample Kolmogorov-Smirnov Test

		formula	hari	ph
N		18	18	18
Normal Parameters[a,b]	Mean	2,00	1,50	5,8672
	Std. Deviation	,840	,514	,05154
Most Extreme Differences	Absolute	,216	,334	,154
	Positive	,216	,334	,154
	Negative	-,216	-,334	-,130
Kolmogorov-Smirnov Z		,918	1,419	,651
Asymp. Sig. (2-tailed)		,368	,036	,790

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.
,965	5	12	,477

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	Subset 2	Subset 3
F1	6	5,8417		
F2	6		5,8717	
F3	6			5,8883
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) = 8.89E-005.

a. Uses Harmonic Mean Sample Size = 6.000.

b. Alpha = ,05.

Lampiran 13. Analisis SPSS uji stabilitas pH viskositas

One-Sample Kolmogorov-Smirnov Test

		sebelum	sesudah
N		5	5
Normal Parameters[a,b]	Mean	5,7446	5,7446
	Std. Deviation	,19188	,19188
Most Extreme Differences	Absolute	,220	,220
	Positive	,142	,142
	Negative	-,220	-,220
Kolmogorov-Smirnov Z		1,076	1,076
Asymp. Sig. (2-tailed)		,475	,475

a. Test distribution is Normal.

b. Calculated from data.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	sebelum	5,9100	9	,03000	,01000
	sesudah	5,7800	9	,02958	,00986

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	sebelum & sesudah	9	-,310	,417

pH

One-Sample Kolmogorov-Smirnov Test

		sebelum	sesudah
N		5	5
Normal Parameters[a,b]	Mean	118,13	118,13
	Std. Deviation	47,841	47,841
Most Extreme Differences	Absolute	,276	,276
	Positive	,276	,276
	Negative	-,169	-,169
Kolmogorov-Smirnov Z		1,352	1,352
Asymp. Sig. (2-tailed)		,052	,052

a. Test distribution is Normal.

b. Calculated from data.

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	sebelum	96,67	9	13,229	4,410
	sesudah	87,22	9	12,528	4,176

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	sebelum & sesudah	9	,974	,000

Lampiran 14. Penentuan nilai SPF dan analisis dengan SPSS

Pengujian pada sediaan dengan konsentrasi ekstrak 0,25% (formula 1)

Panjang gelombang	refluks 0,25 %	EE X I	Abs X EE X I	CF	SPF
290	0.5644	0.015	0.008466		
295	0.5545	0.0817	0.04530265		
300	0.5543	0.2874	0.15930582		
305	0.5533	0.3278	0.18137174	12.616	6.96353
310	0.5512	0.1864	0.10274368		
315	0.5406	0.0839	0.04535634		
320	0.523	0.018	0.009414		
			0.55196023		6.96353
				SPF :	**34.81765**

Panjang gelombang	refluks 0,25 %	EE X I	Abs X EE X I	CF	SPF
290	0.565	0.015	0.008475		
295	0.5633	0.0817	0.04602161		
300	0.5587	0.2874	0.16057038		
305	0.5548	0.3278	0.18186344	12.616	6.998266
310	0.5522	0.1864	0.10293008		
315	0.5418	0.0839	0.04545702		
320	0.522	0.018	0.009396		
			0.55471353		6.998266
				SPF :	**34.99133**

Panjang gelombang	refluks 0,25 %	EE X I	Abs X EE X I	CF	SPF
290	0.5614	0.015	0.008421		
295	0.5573	0.0817	0.04553141		
300	0.555	0.2874	0.159507		
305	0.5526	0.3278	0.18114228	12.616	6.968214
310	0.5512	0.1864	0.10274368		
315	0.543	0.0839	0.0455577		
320	0.5238	0.018	0.0094284		
			0.55233147		6.968214
				SPF :	**34.84107**

Pengujian pada sediaan dengan konsentrasi ekstrak 0,50% (formula 2)

Panjang gelombang	refluks 0,5 %	EE X I	Abs X EE X I	CF	SPF
290	0.6997	0.015	0.010496		
295	0.7017	0.0817	0.057329		
300	0.7052	0.2874	0.202674		
305	0.7079	0.3278	0.23205	12.616	8.821628
310	0.7033	0.1864	0.131095		
315	0.6574	0.0839	0.055156		
320	0.5801	0.018	0.010442		
			0.699241		8.821628
					44.10814

Panjang gelombang	Refluks 0,5 %	EE X I	Abs X EE X I	CF	SPF
290	0.6879	0.015	0.010319		
295	0.7121	0.0817	0.058179		
300	0.7101	0.2874	0.204083		
305	0.7017	0.3278	0.230017	12.616	8.806293
310	0.7001	0.1864	0.130499		
315	0.6497	0.0839	0.05451		
320	0.5789	0.018	0.01042		
			0.698026		8.806293
					44.03146

Panjang gelombang	refluks 0,5 %	EE X I	Abs X EE X I	CF	SPF
290	0.6801	0.015	0.010202		
295	0.7089	0.0817	0.057917		
300	0.7079	0.2874	0.20345		
305	0.7101	0.3278	0.232771	12.616	8.861486
310	0.7133	0.1864	0.132959		
315	0.6499	0.0839	0.054527		
320	0.5875	0.018	0.010575		
			0.702401		8.861486
					44.30743

Pengujian pada sediaan dengan konsentrasi ekstrak 1% (formula 3)

Panjang gelombang	refluks 1 %	EE X I	Abs X EE X I	CF	SPF
290	1.0924	0.015	0.016386		
295	1.0787	0.0817	0.08812979		
300	0.936	0.2874	0.2690064		
305	0.9386	0.3278	0.30767308	12.616	12.03499
310	0.9267	0.1864	0.17273688		
315	0.9993	0.0839	0.08384127		
320	0.8985	0.018	0.016173		
			0.95394642		12.03499
					60.17494

Panjang gelombang	refluks 1 %	EE X I	Abs X EE X I	CF	SPF
290	1.0891	0.015	0.0163365		
295	1.0801	0.0817	0.08824417		
300	0.9497	0.2874	0.27294378		
305	0.9336	0.3278	0.30603408	12.616	11.93224
310	0.9173	0.1864	0.17098472		
315	0.9203	0.0839	0.07721317		
320	0.7803	0.018	0.0140454		
			0.94580182		11.93224
					59.66118

Panjang gelombang	refluks 1 %	EE X I	Abs X EE X I	CF	SPF
290	1.0971	0.015	0.0164565		
295	1.0931	0.0817	0.08930627		
300	0.9499	0.2874	0.27300126		
305	0.9396	0.3278	0.30800088	12.616	11.99953
310	0.9275	0.1864	0.172886		
315	0.8994	0.0839	0.07545966		
320	0.8903	0.018	0.0160254		
			0.95113597		11.99953
					59.99766

Pengujian pada sediaan tanpa ekstrak (basis)

Panjang	**abs**	EE X I	Abs X EE X I	CF	SPF
290	0.0579	0.015	0.000869085		
295	0.0495	0.0817	0.004042843		
300	0.0465	0.2874	0.013377608		
305	0.0366	0.3278	0.011990596	12.616	0.510994
310	0.0363	0.1864	0.006768557		
315	0.0342	0.0839	0.002867366		
320	0.0326	0.018	0.000587556		
			0.040503611		2.55

Panjang	**abs**	EE X I	Abs X EE X I	CF	SPF
290	0.0651	0.015	0.0009765		
295	0.0556	0.0817	0.00454252		
300	0.0523	0.2874	0.01503102		
305	0.0411	0.3278	0.01347258	12.616	0.574405
310	0.0408	0.1864	0.00760512		
315	0.0384	0.0839	0.00322176		
320	0.0378	0.018	0.0006804		
			0.0455299		2.872026

Panjang	**abs**	EE X I	Abs X EE X I	CF	SPF
290	0.0638	0.015	0.000956265		
295	0.0564	0.0817	0.004604285		
300	0.0538	0.2874	0.01546873		
305	0.0425	0.3278	0.013935106	12.616	0.59
310	0.0412	0.1864	0.007681171		
315	0.0378	0.0839	0.003170078		
320	0.0362	0.018	0.000651204		
			0.046466839		2.93

Ekstrak etanol konsetrasi 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	12.616	7.956993
310	0.6020	0.1864	0.1122		
315	0.5728	0.0839	0.0481		
320	0.5388	0.018	0.0097		
			0.6307		
				SPF=	**39.78496**

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	12.616	8.056349
310	0.6033	0.1864	0.1125		
315	0.5965	0.0839	0.0500		
320	0.5583	0.018	0.0100		
			0.6386		
				SPF=	**40.28174**

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	12.616	7.90515
310	0.6009	0.1864	0.1120		
315	0.5997	0.0839	0.0503		
320	0.5284	0.018	0.0095		
			0.6266		
				SPF=	**39.52575**

Ekstrak etanol konsetrasi 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	12.616	10.343
310	0.7785	0.1864	0.1451		
315	0.7553	0.0839	0.0634		
320	0.7365	0.018	0.0133		
			0.8198		
				SPF=	**51.71498**

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	12.616	10.3198
310	0.7645	0.1864	0.1425		
315	0.7463	0.0839	0.0626		
320	0.7333	0.018	0.0132		
			0.8180		
				SPF=	**51.59902**

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	12.616	10.12932
310	0.7698	0.1864	0.1435		
315	0.7588	0.0839	0.0637		
320	0.7409	0.018	0.0133		
			0.8029		
				SPF=	**50.64658**

Ekstrak etanol konsetrasi 1%

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	12.616	13.7215
310	1.0313	0.1864	0.1922		
315	1.0044	0.0839	0.0843		
320	0.9797	0.018	0.0176		
			1.0876		
				SPF=	**68.6075**

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	12.616	13.59823
310	1.0052	0.1864	0.1874		
315	1.0021	0.0839	0.0841		
320	0.8997	0.018	0.0162		
			1.0779		
				SPF=	**67.99117**

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	12.616	13.93073
310	1.0090	0.1864	0.1881		
315	0.9987	0.0839	0.0838		
320	0.9173	0.018	0.0165		
			1.1042		
				SPF=	**69.65364**

Kontrol positif gel Wardah

Panjang Gelombang	**abs**	EE X I	Abs X EE X I	CF	SPF
290	0.6029	0.015	0.0090435		
295	0.5602	0.0817	0.04576834		
300	0.5239	0.2874	0.15056886		
305	0.4538	0.3278	0.14875564	12.6159726	30
310	0.4299	0.1864	0.08013336		
315	0.4071	0.0839	0.03415569		
320	0.3979	0.018	0.0071622		
			0.47558759		
			2.37793795		

Panjang Gelombang	**abs**	EE X I	AbsX EE X I	CF	SPF
290	0.6035	0.015	0.0090525		
295	0.5597	0.0817	0.04572749		
300	0.5301	0.2874	0.15235074		
305	0.4538	0.3278	0.14875564	12.6295699	30
310	0.4119	0.1864	0.07677816		
315	0.4197	0.0839	0.03521283		
320	0.3999	0.018	0.0071982		
			0.47507556		
			2.3753778		

Panjang Gelombang	**abs**	EE X I	Abs X EE X I	CF	SPF
290	0.6031	0.015	0.0090465		
295	0.5642	0.0817	0.04609514		
300	0.5269	0.2874	0.15143106		
305	0.4518	0.3278	0.14810004	12.6263336	30
310	0.4254	0.1864	0.07929456		
315	0.4097	0.0839	0.03437383		
320	0.3809	0.018	0.0068562		
			0.47519733		
			2.37598665		

One-Sample Kolmogorov-Smirnov Test

		SPF
N		21
Normal Parameters[a,b]	Mean	35,2567
	Std. Deviation	24,50539
Most Extreme Differences	Absolute	,181
	Positive	,181
	Negative	-,129
Kolmogorov-Smirnov Z		,828
Asymp. Sig. (2-tailed)		,499

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

Test of Homogeneity of Variances

SPF

Levene Statistic	df1	df2	Sig.
2,792	6	14	,053

SPF

Tukey HSD[a]

formula	N	Subset for alpha = 0.05					
		1	2	3	4	5	6
K(-)	3	2,7833					
K(+)	3		30,0000				
F1	3			34,8800			
F2	3				44,1433		
F3	3					59,9400	
EKSTRAK ETANOL	3						70,8600
Sig.		1,000	1,000	1,000	1,000	1,000	1,000

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