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LAMPIRAN

Lampiran 1. Determinasi HB



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SURAT KETERANGAN
Nomor : 00796/S.Tb./XII/2024

Yang bertanda tangan dibawah ini, Kepala Laboratorium Sistematika Tumbuhan Fakultas Biologi UGM, menerangkan dengan sesungguhnya bahwa,

Nama : Stevianie Sonya Sunardiyanto
NIM : 200802121
Asal Instansi : Fakultas Teknobiologi Universitas Atma Jaya Yogyakarta

telah melakukan identifikasi tumbuhan dengan hasil sebagai berikut,

Kingdom : Plantae
Divisi : Magnoliophyta
Kelas : Magnoliopsida
Bangsa : Myrtales
Suku : Melastomataceae
Marga : *Miconia*
Spesies : *Miconia crenata* (Vahl) Michelang.
Sinonim : *Clidemia hirta* (L.) D. Don
Nama Lokal : Harendong Bulu

identifikasi tersebut dibantu oleh Prof. Dr. Purnomo, M.S.
Demikian surat keterangan ini diberikan untuk dapat dipergunakan seperlunya.

Mengetahui,
an Dekan
Wakil Dekan Bidang Penelitian, Pengabdian
Kepada Masyarakat, Kerja Sama dan Alumni

Dr. Eko Agus Suyono, M.App.Sc.
NIP. 197112181997021001

Yogyakarta, 17 Desember 2024
Kepala Laboratorium
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Prof. Dr. Ratna Susandarini, M.Sc.
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Lampiran 2. *Ethical Clearance*

**UNIVERSITAS KRISTEN
DUTA WACANA
YOGYAKARTA**

**FAKULTAS
KEDOKTERAN**
UNIT KOMISI ETIK PENELITIAN KESEHATAN

KETERANGAN KELAIKAN ETIK

(Ethical Clearance)

Nomor : 1669/C.16/FK/2024

Komisi Etik Penelitian Kedokteran Fakultas Kedokteran Universitas Kristen Duta Wacana, setelah mempelajari dengan seksama rancangan penelitian yang diusulkan, dengan ini menyatakan bahwa penelitian dengan :

Judul : AKTIVITAS PENUMBUH RAMBUT EKSTRAK ETANOL
DAUN *Clidemia hirta* L. PADA TIKUS PUTIH (*Rattus
norvegicus*) JANTAN GALUR SPRAGUE-DAWLEY

Peneliti : Stevanie Sonya Sunardiyanto

NPM : 200802121

Pembimbing I : apt. Ines Septi Arsiningtyas, Ph.D

Pembimbing II : apt. Stefani Santi Widhiastuti, S.Farm., M.Biotech

Lembaga/tempat penelitian : Laboratorium Teknobia-Industri dan Laboratorium Pengujian
Hewan Universitas Atma Jaya Yogyakarta

Dinyatakan memenuhi persyaratan etik untuk dilaksanakan, dengan catatan sewaktu-waktu komisi dapat melakukan pemantauan. Kelaikan etik ini berlaku 1 (satu) tahun sejak tanggal di tetapkan.

Yogyakarta, 06 November 2024


dr. Mitra Andini Sigilipoe, MPH.
(Ketua)


Dr. dr. Yanti Ivana Suryanto, M.Sc.
(Sekretaris)

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Lampiran 3. Standardisasi Simplisia Daun Harendong Bulu

Hasil Kadar Air		
Pengulangan	Kadar air (%)	Rata-rata (%)
1	7,96	8,42
2	8,51	
3	8,78	

Hasil Kadar Abu					
Pengulangan	Berat cawan awal (W0)	Berat akhir (W1)	Berat sampel (g)	Kadar abu total (%)	Rata-rata %
1	13483,3	13593,5	2000	5,51	5,03
2	11892	12001,2	2000	5,46	
3	15078,2	15160,5	2000	4,115	

Rumus:

$$\% \text{ kadar abu total} = \frac{\text{berat cawan akhir (mg)} - \text{berat cawan awal (mg)}}{\text{berat simplisia (mg)}} \times 100\%$$

Pengulangan 1

$$\begin{aligned} \% \text{ kadar abu total} &= \frac{\text{berat cawan akhir (mg)} - \text{berat cawan awal (mg)}}{\text{berat simplisia (mg)}} \times 100\% \\ &= \frac{13593,5 - 13483,3}{2000} \times 100\% \\ &= 5,51\% \end{aligned}$$

Pengulangan 2

$$\begin{aligned} \% \text{ kadar abu total} &= \frac{\text{berat cawan akhir (mg)} - \text{berat cawan awal (mg)}}{\text{berat simplisia (mg)}} \times 100\% \\ &= \frac{12001,2 - 11892}{2000} \times 100\% \\ &= 5,46\% \end{aligned}$$

Pengulangan 3

$$\begin{aligned} \% \text{ kadar abu total} &= \frac{\text{berat cawan akhir (mg)} - \text{berat cawan awal (mg)}}{\text{berat simplisia (mg)}} \times 100\% \\ &= \frac{15160,5 - 15078,2}{2000} \times 100\% \\ &= 4,115\% \end{aligned}$$

Rata-rata

$$= \frac{5,51 + 5,46 + 4,115}{3} = 5,03\%$$

Hasil Kadar Sari Larut Air						
Pengulangan	Berat awal (W0)	Berat akhir (W1)	Berat sari (g)	Berat sari total (g)	Kadar Sari Larut Air	Rata-rata %
1	34,9	34,6	0,3	1,5	30%	33,33
2	32,9	32,5	0,4	2	40%	
3	33,7	33,4	0,3	1,5	30%	

Rumus:

$$\text{Bobot sari} = \text{berat cawan awal} - \text{berat cawan akhir}$$

$$\text{Bobot sari total} = \frac{\text{volume pelarut (mL)}}{\text{volume filtrat (mL)}} \times \text{bobot sari}$$

$$\% \text{ sari larut air} = \frac{\text{bobot sari total}}{5} \times 100\%$$

Pengulangan 1

$$\begin{aligned} \text{Bobot sari} &= \text{berat cawan awal} - \text{berat cawan akhir} \\ &= 34,9 - 34,6 \\ &= 0,3 \text{ g} \end{aligned}$$

$$\begin{aligned} \text{Bobot sari total} &= \frac{\text{volume pelarut (mL)}}{\text{volume filtrat (mL)}} \times \text{bobot sari} \\ &= \frac{100}{20} \times 0,3 \\ &= 1,5 \text{ g} \end{aligned}$$

$$\begin{aligned} \% \text{ sari larut air} &= \frac{\text{bobot sari total}}{5} \times 100\% \\ &= \frac{1,5}{5} \times 100\% \\ &= 30\% \end{aligned}$$

Pengulangan 2

$$\begin{aligned} \text{Bobot sari} &= \text{berat cawan awal} - \text{berat cawan akhir} \\ &= 32,9 - 32,5 \\ &= 0,4 \text{ g} \end{aligned}$$

$$\begin{aligned} \text{Bobot sari total} &= \frac{\text{volume pelarut (mL)}}{\text{volume filtrat (mL)}} \times \text{bobot sari} \\ &= \frac{100}{20} \times 0,4 \\ &= 2 \text{ g} \end{aligned}$$

$$\begin{aligned} \% \text{ sari larut air} &= \frac{\text{bobot sari total}}{5} \times 100\% \\ &= \frac{2}{5} \times 100\% \\ &= 40\% \end{aligned}$$

Pengulangan 3

$$\begin{aligned} \text{Bobot sari} &= \text{berat cawan awal} - \text{berat cawan akhir} \\ &= 33,7 - 33,4 \\ &= 0,3 \text{ g} \end{aligned}$$

$$\begin{aligned} \text{Bobot sari total} &= \frac{\text{volume pelarut (mL)}}{\text{volume filtrat (mL)}} \times \text{bobot sari} \\ &= \frac{100}{20} \times 0,3 \\ &= 1,5 \text{ g} \end{aligned}$$

$$\begin{aligned} \% \text{ sari larut air} &= \frac{\text{bobot sari total}}{5} \times 100\% \\ &= \frac{1,5}{5} \times 100\% \\ &= 30\% \end{aligned}$$

$$\text{Rata-rata kadar sari larut air} = \frac{30+40+30}{3} = 33,33\%$$

Hasil Kadar Sari Larut Etanol						
Pengulangan	Berat awal (W0)	Berat akhir (W1)	Berat sari (g)	Berat sari total (g)	Kadar Sari Larut Air	Rata-rata %
1	36,3	36,1	0,2	1	20%	30
2	34,1	33,8	0,3	1,5	30%	
3	30,9	31,3	0,4	2	40%	

Rumus:

Bobot sari = *berat cawan awal – berat cawan akhir*

Bobot sari total = $\frac{\text{volume pelarut (mL)}}{\text{volume filtrat (mL)}} \times \text{bobot sari}$

% sari larut etanol = $\frac{\text{bobot sari total}}{5} \times 100\%$

Pengulangan 1

Bobot sari = *berat cawan awal – berat cawan akhir*

$$= 36,3 - 36,1$$

$$= 0,2 \text{ g}$$

Bobot sari total = $\frac{\text{volume pelarut (mL)}}{\text{volume filtrat (mL)}} \times \text{bobot sari}$

$$= \frac{100}{20} \times 0,2$$

$$= 1 \text{ g}$$

% sari larut etanol = $\frac{\text{bobot sari total}}{5} \times 100\%$

$$= \frac{1}{5} \times 100\%$$

$$= 20\%$$

Pengulangan 2

Bobot sari = *berat cawan awal – berat cawan akhir*

$$= 36,3 - 35,1$$

$$= 0,3 \text{ g}$$

Bobot sari total = $\frac{\text{volume pelarut (mL)}}{\text{volume filtrat (mL)}} \times \text{bobot sari}$

$$= \frac{100}{20} \times 0,3$$

$$= 1,5 \text{ g}$$

% sari larut etanol = $\frac{\text{bobot sari total}}{5} \times 100\%$

$$= \frac{1,5}{5} \times 100\%$$

$$= 30\%$$

Pengulangan 3

Bobot sari = *berat cawan awal – berat cawan akhir*

$$= 31,3 - 30,9$$

$$= 0,4 \text{ g}$$

Bobot sari total = $\frac{\text{volume pelarut (mL)}}{\text{volume filtrat (mL)}} \times \text{bobot sari}$

$$= \frac{100}{20} \times 0,4$$

$$= 2 \text{ g}$$

$$\begin{aligned}
 \% \text{ sari larut etanol} &= \frac{\text{bobot sari total}}{5} \times 100\% \\
 &= \frac{2}{5} \times 100\% \\
 &= 40\%
 \end{aligned}$$

$$\text{Rata-rata kadar sari larut etanol} = \frac{20+30+40}{3} = 30\%$$

Lampiran 4. Perhitungan Rendemen Ekstrak Etanol Daun Harendong Bulu

Berat ekstrak = *berat cawan akhir* – *berat cawan awal*

$$= 87,8631 - 77,9986$$

$$= 9,8645 \text{ g}$$

$$\begin{aligned}
 \% \text{ rendemen} &= \frac{\text{berat ekstrak (g)}}{\text{berat simplisia awal (g)}} \times 100\% \\
 &= \frac{9,8645}{50} \times 100\% \\
 &= 19,729\%
 \end{aligned}$$

Lampiran 5. Hasil Pengukuran Absorbansi Larutan Standar Kuersetin pada Panjang Gelombang 443 nm

Konsentrasi (ppm)	Absorbansi (A)	Persamaan Regresi	Koefisien Korelasi (r)
25	0,2186 ± 0,01125	$y = 0,0084x + 0,003$	0,99979
50	0,4138 ± 0,02508		
75	0,6396 ± 0,0245		
100	0,8388 ± 0,03998		
125	1,057 ± 0,08362		

Lampiran 6. Hasil Pengukuran Absorbansi Larutan Standar Asam Galat pada Panjang Gelombang 730 nm

Konsentrasi (ppm)	Absorbansi	Persamaan Regresi	Koefisien Korelasi (r)
10	0,2102 ± 0,013	$y = 0,0385x + 0,1569$	0,9961
15	0,4348 ± 0,013		
20	0,6064 ± 0,014		
25	0,8428 ± 0,020		
30	0,9678 ± 0,058		

Lampiran 7. Hasil Pengukuran Absorbansi Larutan Standar Asam Tanat pada Panjang Gelombang 775 nm

Konsentrasi (ppm)	Absorbansi	Persamaan Regresi	Koefisien Korelasi (r)
4	0,2394 ± 0,014	$y = 0,0334x + 0,1049$	0,9995
6	0,3022 ± 0,012		
8	0,3768 ± 0,015		
10	0,4354 ± 0,020		
12	0,5068 ± 0,015		

Lampiran 8. Perhitungan Fitokimia Kuantitatif Tanin

Konsentrasi Akhir (ppm)	Absorbansi	mg/mL	mg TAE/g ekstrak	Rata-Rata	STDEV.P	CV
227,27	0,381	0,0083	36,37	36,188	1,84343592	0,050941
	0,374	0,0080	35,45			
	0,358	0,0076	33,34			
	0,401	0,0089	39,01			
	0,384	0,0083	36,77			

Lampiran 9. Perhitungan Fitokimia Kuantitatif Flavonoid

Konsentrasi Akhir (ppm)	Absorbansi	mg/mL	mg QE/g ekstrak	Rata-Rata	STDEV.P	CV
500	0,400	0,0473	94,52	89,81	3,022336844	0,033652565
	0,377	0,0445	89,05			
	0,375	0,0443	88,57			
	0,387	0,0457	91,43			
	0,362	0,0427	85,48			

Lampiran 10. Perhitungan Fitokimia Kuantitatif Fenolik

Konsentrasi Akhir (ppm)	Absorbansi	mg/mL	mg GAE/g ekstrak	Rata-Rata	STDEV.P	CV
50	0,216	0,009686	193,71	198,906	5,3793107	0,027044
	0,242	0,010361	207,22			
	0,222	0,009842	196,83			
	0,216	0,009686	193,71			
	0,216	0,009686	193,71			

Lampiran 11. Hasil Pengukuran Antioksidan Larutan Asam Askorbat pada Panjang Gelombang 520 nm

Konsentrasi (ppm)	Rata-rata % Inhibisi	Persamaan Regresi	Koefisien Korelasi (r)	IC ₅₀
11,25	94,82 ± 0,47	$y = 7,5041x + 14,477$	0,992	4,73 ppm
9,375	89,72 ± 1,61			
7,5	71,8 ± 2,11			
5,625	55,82 ± 3,96			
3,75	40,05 ± 1,72			
1,875	33,45 ± 4,76			
0,75	16,78 ± 0,74			

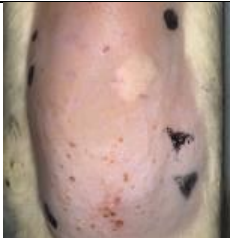
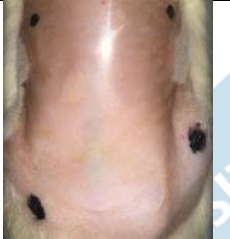
Lampiran 12. Hasil Pengukuran Antioksidan Ekstrak Etanol Daun Harendong Bulu (*Miconia crenata*) pada Panjang Gelombang 520 nm

Konsentrasi (ppm)	Rata-rata % Inhibisi	Persamaan Regresi	Koefisien Korelasi (r)	IC ₅₀
7,5	78,67 ± 2,85	$y = 11,011x - 2,4273$	0,996	4,76 ppm
5,625	59,76 ± 1,45			
3,75	43,05 ± 6,84			
1,875	14,89 ± 4,31			
0,75	6,21 ± 3,25			

Lampiran 13. Hasil Pengukuran Antioksidan Ekstrak Etanol Daun Harendong Bulu Konsentrasi Tinggi pada Panjang Gelombang 520 nm

Konsentrasi (ppm)	Rata-rata % Inhibisi	Persamaan Regresi	Koefisien Korelasi (r)
62,5	91,94 ± 1,19	$y = -0,0153x + 93,634$	0,964
125	91,85 ± 0,94		
250	90,90 ± 0,52		
500	85,50 ± 0,87		

Lampiran 14. Dokumentasi Tikus Kontrol Negatif (Propilen Glikol 10%)

	Hari Ke-0	Hari Ke-7	Hari Ke-14	Hari Ke-21
U1				
U2				
U3				
U4				
U5				
U6				

Keterangan :

U1 : Ulangan Tikus Pertama

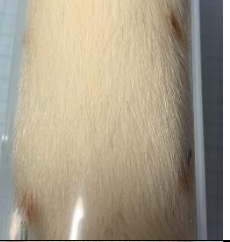
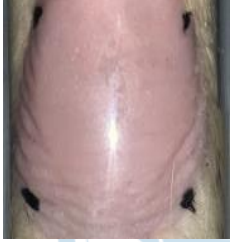
U2 : Ulangan Tikus Kedua

U3 : Ulangan Tikus Ketiga

U4 : Ulangan Tikus Keempat

U5 : Ulangan Tikus Kelima

Lampiran 15. Dokumentasi Tikus Perlakuan 2 (Harendong Bulu 1,25%)

	Hari Ke-0	Hari Ke-7	Hari Ke-14	Hari Ke-21
U1				
U2				
U3				
U4				
U5				
U6				

Keterangan :

U1 : Ulangan Tikus Pertama

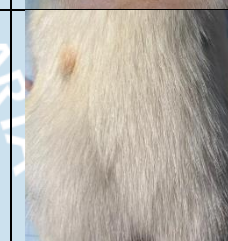
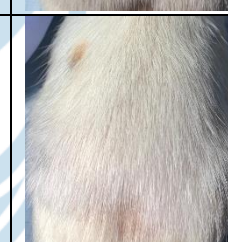
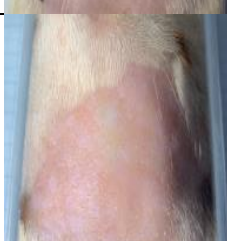
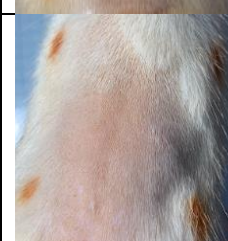
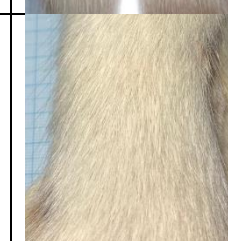
U2 : Ulangan Tikus Kedua

U3 : Ulangan Tikus Ketiga

U4 : Ulangan Tikus Keempat

U5 : Ulangan Tikus Kelima

Lampiran 16. Dokumentasi Tikus Perlakuan 3 (Harendong Bulu 2,5%)

	Hari Ke-0	Hari Ke-7	Hari Ke-14	Hari Ke-21
U1				
U2				
U3				
U4				
U5				
U6				

Keterangan :

U1 : Ulangan Tikus Pertama

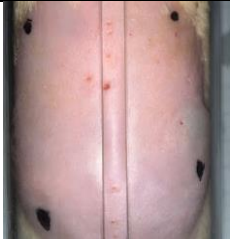
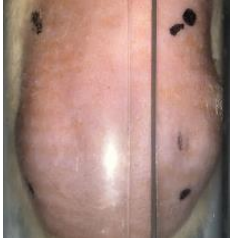
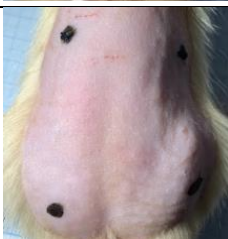
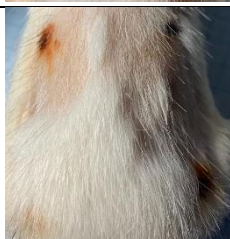
U2 : Ulangan Tikus Kedua

U3 : Ulangan Tikus Ketiga

U4 : Ulangan Tikus Keempat

U5 : Ulangan Tikus Kelima

Lampiran 17. Dokumentasi Tikus Perlakuan 4 (Harendong Bulu 5%)

	Hari Ke-0	Hari Ke-7	Hari Ke-14	Hari Ke-21
U1				
U2				
U3				
U4				
U5				
U6				

Keterangan :

U1 : Ulangan Tikus Pertama

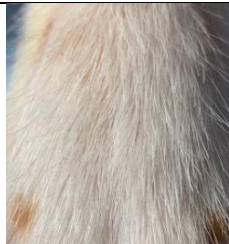
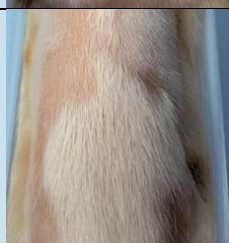
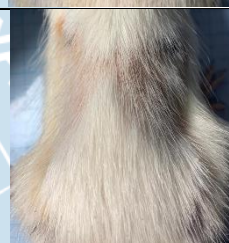
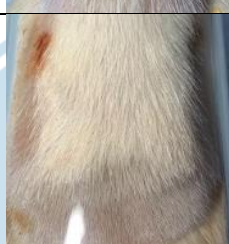
U2 : Ulangan Tikus Kedua

U3 : Ulangan Tikus Ketiga

U4 : Ulangan Tikus Keempat

U5 : Ulangan Tikus Kelima

Lampiran 18. Dokumentasi Tikus Kontrol Positif (Minoksidil 5%)

	Hari Ke-0	Hari Ke-7	Hari Ke-14	Hari Ke-21
U1				
U2				
U3				
U4				
U5				

Keterangan :

- U1 : Ulangan Tikus Pertama
 U2 : Ulangan Tikus Kedua
 U3 : Ulangan Tikus Ketiga
 U4 : Ulangan Tikus Keempat
 U5 : Ulangan Tikus Kelima

Lampiran 19. Analisis SPSS

Tests of Normality

		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Perlakuan	Statistic	df	Sig.	Statistic	df	Sig.
Bobotbulu	K- (PG 10%)	.240	5	.200 [*]	.896	5	.389
	Ekstrak HB 1,25%	.327	5	.086	.834	5	.150
	Ekstrak HB 2,5%	.241	5	.200 [*]	.904	5	.435
	Ekstrak HB 5%	.233	5	.200 [*]	.910	5	.469
	K+ Minoksidil 5%	.215	5	.200 [*]	.930	5	.598

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

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Bobotbulu	Based on Mean	5.082	4	20	.005
	Based on Median	.998	4	20	.432
	Based on Median and with adjusted df	.998	4	9.206	.456
	Based on trimmed mean	4.669	4	20	.008

Multiple Comparisons

Dependent Variable: Bobotbulu

Games-Howell

		Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
(I) Perlakuan	(J) Perlakuan				Lower Bound	Upper Bound
K- (PG 10%)	Ekstrak HB 1,25%	-90.70000	45.44046	.387	-277.5750	96.1750
	Ekstrak HB 2,5%	6.46000	26.55746	.999	-91.5554	104.4754
	Ekstrak HB 5%	-29.44000	34.37798	.902	-164.1495	105.2695
	K+ Minoksidil 5%	-11.02000	15.91994	.952	-67.6185	45.5785
Ekstrak HB 1,25%	K- (PG 10%)	90.70000	45.44046	.387	-96.1750	277.5750
	Ekstrak HB 2,5%	97.16000	49.29543	.376	-86.8183	281.1383
	Ekstrak HB 5%	61.26000	53.91277	.784	-129.2544	251.7744
	K+ Minoksidil 5%	79.68000	44.47680	.474	-109.9535	269.3135
Ekstrak HB 2,5%	K- (PG 10%)	-6.46000	26.55746	.999	-104.4754	91.5554
	Ekstrak HB 1,25%	-97.16000	49.29543	.376	-281.1383	86.8183
	Ekstrak HB 5%	-35.90000	39.33255	.884	-174.9803	103.1803
	K+ Minoksidil 5%	-17.48000	24.87264	.948	-115.5897	80.6297
Ekstrak HB 5%	K- (PG 10%)	29.44000	34.37798	.902	-105.2695	164.1495
	Ekstrak HB 1,25%	-61.26000	53.91277	.784	-251.7744	129.2544
	Ekstrak HB 2,5%	35.90000	39.33255	.884	-103.1803	174.9803
	K+ Minoksidil 5%	18.42000	33.09374	.976	-118.4069	155.2469
K+ Minoksidil 5%	K- (PG 10%)	11.02000	15.91994	.952	-45.5785	67.6185
	Ekstrak HB 1,25%	-79.68000	44.47680	.474	-269.3135	109.9535
	Ekstrak HB 2,5%	17.48000	24.87264	.948	-80.6297	115.5897
	Ekstrak HB 5%	-18.42000	33.09374	.976	-155.2469	118.4069