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Lampiran 1. Hasil determinasi tanaman Semangka (*Citrullus lanatus*)

	KEMENTERIAN KESEHATAN REPUBLIK INDONESIA BADAN PENELITIAN DAN PENGEMBANGAN KESEHATAN BALAI BESAR PENELITIAN DAN PENGEMBANGAN TANAMAN OBAT DAN OBAT TRADISIONAL Jalan Laksu No.11 Tawamangu, Karanganyar, Jawa Tengah 57792 Telepon (0271) 697 010 Faksimile (0271) 697 451 Laman b2p2toot.itbang.kemkes.go.id Surat Elektronik b2p2toot@itbang.kemkes.go.id
Nomor : KM.04.02/2/2796/2021	07 Desember 2021
Lampiran : -	
Hal : Keterangan Determinasi	
Yth. Dekan Fakultas Farmasi Universitas Setia Budi Jalan Letjend. Sutoyo Solo 57127	
Merujuk surat Saudara nomor: 493/H6-04/21.09.2021 tanggal 21 September 2021 hal permohonan determinasi, dengan ini kami sampaikan bahwa hasil determinasi sampel tanaman sebagai berikut:	
Nama Pemohon : Heny Puspita Ningrum	
Nama Sampel : Semangka	
Sampel : Segar	
Spesies : <i>Citrullus lanatus</i> (Thunb.) Matsum. & Nakai	
Sinonim : <i>Citrullus vulgaris</i> Schrad.; <i>Citrullus amarus</i> Schrad.	
Familia : Cucurbitaceae	
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 Penelitian dan Pengembangan Tanaman Obat dan Obat Tradisional Tawangmangu,
	
	Akhmad Saikhu, S.K.M., M.Sc.PH.
Tembusan :	
-	
Dokumen ini difandatangani secara elektronik melalui Aplikasi TNDE menggunakan sertifikat elektronik yang diterbitkan oleh BSE. (1/1)	

Lampiran 2. Hasil *Ethical Clearance*

9/11/21, 10:51 AM

KEPK-RSDM



**HEALTH RESEARCH ETHICS COMMITTEE
KOMISI ETIK PENELITIAN KESEHATAN**

Dr. Moewardi General Hospital
RSUD Dr. Moewardi

ETHICAL CLEARANCE
KELAIKAN ETIK

Nomor : 852 / VIII / HREC / 2021

The Health Research Ethics Committee Dr. Moewardi
Komisi Etik Penelitian Kesehatan RSUD Dr. Moewardi

after reviewing the proposal design, herewith to certify
setelah menilai rancangan penelitian yang diusulkan, dengan ini menyatakan

That the research proposal with topic :
Bahwa usulan penelitian dengan judul

**UJI AKTIVITAS DIURETIK TABLET EFFERVESCENT EKSTRAK KULIT BUAH SEMANGKA (Citrullus lanatus) PADA TIKUS
PUTIH GALUR WISTAR**

Principal investigator
Peneliti Utama : Heny puspita ningrum
24185605A

Location of research
Lokasi Tempat Penelitian : Laboratorium farmakologi dan laboratorium bahan alam
: Universitas Setia Budi Surakarta

Is ethically approved
Dinyatakan layak etik

Issued on : 11 September 2021

Chairman
Ketua

Dr. Wahyu Dwi Atrioko, Sp.F
19770224 201001 1 004

<https://komisi-etika-rsmoewardi.com/kep/ethicalclearance/24185605A-1164>

1/1

Lampiran 3. Hasil keterangan hewan uji

"ABIMANYU FARM"

√ Mencit putih jantan √ Tikus Wistar √ Swis Webster √ Gasing
√ Mencit Balb/C √ Kelinci New Zealand

Ngampon RT 04 / RW 04. Mojosongo Kec. Jebres Surakarta. Phone 085 629 994 33 / Lab USB Ska

Yang bertanda tangan di bawah ini:

Nama : Sigit Pramono

Selaku pengelola Abimanyu Farm, menerangkan bahwa hewan uji yang digunakan untuk penelitian, oleh:

Nama : Heny Puspita Ningrum

NIM : 24185605A

Institusi : Universitas Setia Budi Surakarta

Merupakan hewan uji dengan spesifikasi sebagai berikut:

Jenis hewan : Tikus Wistar

Umur : 2-3 bulan

Jumlah : 25 ekor

Jenis kelamin : Jantan

Keterangan : Sehat

Asal-usul : Unit Pengembangan Hewan Percobaan UGM Yogyakarta

Yang pengembangan dan pengelolaannya disesuaikan standar baku penelitian. Demikian surat keterangan ini dibuat untuk digunakan sebagaimana mestinya.

Surakarta, 23 Desember 2021

Hormat kami



Sigit Pramono

"ABIMANYU FARM"

Lampiran 4. Perhitungan asam basa



Berdasarkan reaksi diatas, dapat diketahui bahwa untuk menetralkan 1 mol asam sitrat dibutuhkan 3 mol natrium bikarbonat, dan untuk menetralkan 1 mol asam tartrat dibutuhkan 2 mol natrium bikarbonat. Maka dapat dihitung jumlah asam sitrat, asam tartrat dan natrium bikarbonat yang dibutuhkan untuk reaksi yang sempurna.

BM Asam Sitrat : 210

BM Asam Tartrat : 150

BM Natrium Bikarbonat : 84

Jumlah natrium bikarbonat yang dibutuhkan untuk semua formula:

$$\text{Asam Sitrat} = \frac{120 \text{ mg}}{210} \times \frac{x}{3 \times 84} = 144 \text{ mg}$$

$$\text{Asam Tartrat} = \frac{285 \text{ mg}}{150} \times \frac{x}{2 \times 84} = 320 \text{ mg}$$

$$\text{Natrium Bikarbonat yang dibutuhkan} = 144 + 320 = 464 \text{ mg}$$

Lampiran 5. Pembuatan serbuk simplisia



Kulit buah semangka



pencucian kulit buah semangka



Pengeringan kulit buah semangka



penyerbukan kulit buah semangka kering



Pengayakan serbuk kulit buah semangka

Lampiran 6. Pembuatan ekstrak kulit buah semangka



Ekstraksi dengan alkohol 70%



penyaringan



Pengentalan dengan rotary evaporator





ekstrak kental




Lampiran 7. Perhitungan hasil rendemen ekstrak kulit buah semangka

Persentase rendemen ekstrak kulit buah semangka

$$\begin{aligned}\text{Rendemen} &= \frac{\text{bobot ekstrak (gram)}}{\text{bobot serbuk (gram)}} \times 100\% \\ &= \frac{271}{750} \times 100\% \\ &= 36,13 \%\end{aligned}$$

Lampiran 8. Hasil uji fitokimia ekstrak kulit buah semangka

Kandungan kimia	Hasil	Keterangan
Alkaloid		Positif
Saponin		Positif

Flavonoid		Positif
Tanin		Positif
Steroid		Negatif

Lampiran 9. Hasil uji mutu fisik granul *effervescent*

a. Sudut diam

Formula	Replikasi	Tinggi kerucut (cm)	Diameter kerucut (cm)	Sudut diam
I	1	2.9	12.40	25.06°
	2	2.9	12.40	25.06°
	3	2.9	12.40	25.06°
II	1	3.0	12.35	25.91°
	2	3.0	12.35	25.91°
	3	3.0	12.35	25.91°
III	1	3.1	12.30	26.74°
	2	3.1	12.30	26.74°
	3	3.1	12.30	26.74°

Lampiran 10. Hasil uji mutu fisik tablet *effervescent*

a. Keseragaman bobot

No	Formula I	Formula II	Formula III
1	1.521	1.522	1.542
2	1.501	1.519	1.544
3	1.542	1.546	1.547
4	1.527	1.551	1.567
5	1.528	1.535	1.546
6	1.542	1.564	1.548
7	1.561	1.563	1.538
8	1.511	1.530	1.542
9	1.481	1.569	1.524
10	1.492	1.537	1.542
11	1.481	1.558	1.545
12	1.526	1.536	1.539
13	1.550	1.509	1.532
14	1.564	1.495	1.557
15	1.512	1.550	1.532
16	1.556	1.538	1.541
17	1.471	1.514	1.518
18	1.509	1.487	1.537
19	1.501	1.541	1.513
20	1.531	1.471	1.521
Rata-rata	1.520	1.531	1.538
SD	0.027	0.026	0.012

b. Waktu larut

Table hasil uji waktu larut tablet

Replikasi	Waktu larut		
	Formula I	Formula II	Formula III
1	1 menit 25 detik	1 menit 43 detik	1 menit 43 detik
2	1 menit 33 detik	1 menit 50 detik	1 menit 55 detik
3	1 menit 25 detik	1 menit 46 detik	1 menit 55 detik
Rata-rata	1 menit 28 detik	1 menit 46 detik	1 menit 51 detik

Tabel waktu larut tablet *effervescent* pembandingan (produk jadi)

Merk tablet effervescent	Waktu larut (menit)
Jesscool	2 menit 08 detik
Protecal Solid	2 menit 52 detik
Enervon-C	2 menit 24 detik
Rata-rata	2 menit 28 detik

c. Kekerasan tablet

No	Formula I	Formula II	Formula III
1	4.3	5.2	2.5
2	5.8	4.2	3.8
3	5.2	5.5	2.0
4	4.6	4.5	3.0
5	4.5	5.0	3.5
6	5.5	3.5	3.5
7	6.5	4.0	2.5
8	6.3	4.5	3.2
9	6.0	4.8	3.2
10	7.0	3.5	2.5
Rata-rata	5.57	4.47	2.97
SD	0.914	0.680	0.573

Lampiran 11. Hasil pengujian efek diuretik

Tabel volume urine

Kelompok perlakuan	Volume urine (ml) pada jam ke-					
	1	2	3	4	5	6
Kontrol positif furosemid 3.654 mg/Kg BB	2.25	2.25	0.4	0.8	2.3	2.1
	1.5	2	1.65	2.4	1.6	1.5
	1	2.85	2.6	1.4	2.1	0.8
	1.1	0.9	2.4	2.15	1.8	0.3
	0.75	3	3.8	1.1	1	2
Rata rata	1.32	2.2	2.17	1.57	1.76	1.34
SD	0.5858	0.8359	1.2567	0.6833	0.5029	0.7765
Kontrol negatif tablet effervescent tanpa ekstrak	0.6	1.8	0.5	0.25	1.3	0.1
	2	0.8	1.1	0.3	0.5	1
	1	0.5	1.2	0.25	0.1	0.2
	1.4	1.2	2	0.45	0	0.4
	2	0.5	0.9	0	0.2	0
Rata-rata	1.32	0.96	1.14	0.25	0.42	0.34
SD	0.6418	0.5504	0.5504	0.162	0.5263	0.3574
Tablet effervescent ekstrak kulit buah semangka 17.5 mg/Kg BB	2	1	0.5	0.8	0.4	0.2
	1.9	2.5	0.9	1.2	1.3	0.2
	0	4	1.3	1.2	0.8	1
	0	3.7	1.85	0	0.8	0.6
	2.7	4.2	0.4	0.55	0	0.4
Rata-rata	1.32	3.08	0.79	0.75	0.66	0.48
SD	1.2437	1.3367	0.3577	0.5624	0.4678	0.3346
Tablet effervescent ekstrak kulit buah semangka 35 mg/Kg BB	1.3	4.3	0.9	0	1.2	2
	1.55	3.2	0.6	1	2	0
	0	5.3	1.2	1.1	2.1	1.2
	0.05	3	0.5	0.5	0	0.9
	2	3.9	0.8	0.6	1.8	1.8
Rata-rata	0.98	3.94	0.6	0.64	1.42	0.18
SD	0.9673	0.9235	0.2738	0.4393	0.8671	0.7549
Tablet effervescent ekstrak kulit buah semangka 70 mg/Kg BB	0.8	0.45	0.3	0.75	2	1.2
	0	3.2	1.1	1.8	0	1.1
	0.4	3.3	0.75	0.4	1.8	1.1
	1.2	2.85	1.3	0	3	1.8
	1.7	1.15	0.45	0.25	2.5	1.9
Rata-rata	0.82	2.14	0.78	0.64	1.86	1.42
SD	0.6848	1.3035	0.4221	0.703	1.1392	0.3562

Tabel vorata-rata volume urin tiap waktu

Kelompok perlakuan	Volume rata rata urine tiap jam ke					
	1	2	3	4	5	6
Kontrol positif furosemid 3.654 mg/Kg BB	1.32	2.2	2.17	1.57	1.76	1.34
Kontrol negatif tablet effervescent tanpa ekstrak	1.32	0.96	1.14	0.25	0.42	0.34
Tablet effervescent ekstrak kulit buah semangka 17.5 mg/Kg BB	1.32	3.08	0.79	0.75	0.66	0.48
Tablet effervescent ekstrak kulit buah semangka 35 mg/Kg BB	0.98	3.94	0.6	0.64	1.42	0.18
Tablet effervescent ekstrak kulit buah semangka 70 mg/Kg BB	0.82	2.14	0.78	0.64	1.86	1.42

Tabel rata rata kumulatif volume urine tiap waktu

Kelompok perlakuan	Volume urine kumulatif tiap jam ke					
	1	2	3	4	5	6
Kontrol positif furosemid 3.654 mg/Kg BB	1.32	3.53	5.69	7.26	9.02	10.36
Kontrol negatif tablet effervescent tanpa ekstrak	1.32	2.28	3.42	3.67	4.09	4.43
Tablet effervescent ekstrak kulit buah semangka 17.5 mg/Kg BB	1.32	4.4	5.19	5.94	6.6	7.08
Tablet effervescent ekstrak kulit buah semangka 35 mg/Kg BB	0.98	4.92	5.52	6.16	7.58	7.76
Tablet effervescent ekstrak kulit buah semangka 70 mg/Kg BB	0.82	2.96	3.74	4.38	6.24	7.66

Tabel berat badan tikus

kelompok	Bobot tikus (g)				
	1	2	3	4	5
Kontrol positif furosemid 3.654 mg/Kg BB	175	180	190	185	188
Kontrol negatif tablet effervescent tanpa ekstrak	180	175	188	185	185
Tablet effervescent ekstrak kulit buah semangka 17.5 mg/Kg BB	180	180	185	190	190
Tablet effervescent ekstrak kulit buah semangka 35 mg/Kg BB	190	180	180	185	184
Tablet effervescent ekstrak kulit buah semangka 70 mg/Kg BB	190	190	195	185	185

Lampiran 12. Perhitungan dosis dan volume pemberian sediaan

Kontrol Positif

(Dosis = 3,6 mg/KgBB tikus. Larutan stok = 40 mg/50ml = 0,8 mg/ml)

$$\text{Dosis tikus 175} = \frac{3,6 \text{ mg}}{1000 \text{ gram}} \times 175 \text{ gram} = 0,63 \text{ mg}$$

$$\text{Volume pemberian} = \frac{0,63 \text{ mg}}{0,8 \text{ mg/ml}} = 0,78 \text{ ml}$$

$$\text{Dosis tikus 180} = \frac{3,6 \text{ mg}}{1000 \text{ gram}} \times 180 \text{ gram} = 0,73 \text{ mg}$$

$$\text{Volume pemberian} = \frac{0,73 \text{ mg}}{0,8 \text{ mg/ml}} = 0,9 \text{ ml}$$

$$\text{Dosis tikus 190} = \frac{3,6 \text{ mg}}{1000 \text{ gram}} \times 190 \text{ gram} = 0,68 \text{ mg}$$

$$\text{Volume pemberian} = \frac{0,68 \text{ mg}}{0,8 \text{ mg/ml}} = 0,85 \text{ ml}$$

$$\text{Dosis tikus 185} = \frac{3,6 \text{ mg}}{1000 \text{ gram}} \times 185 \text{ gram} = 0,66 \text{ mg}$$

$$\text{Volume pemberian} = \frac{0,66 \text{ mg}}{0,8 \text{ mg/ml}} = 0,83 \text{ ml}$$

$$\text{Dosis tikus 188} = \frac{3,6 \text{ mg}}{1000 \text{ gram}} \times 188 \text{ gram} = 0,67 \text{ mg}$$

$$\text{Volume pemberian} = \frac{0,67 \text{ mg}}{0,8 \text{ mg/ml}} = 0,84 \text{ ml}$$

Kontrol negatif

(Dosis = 4 ml/ 200 gram BB tikus)

$$\text{Volume pemberian tikus } 180 \text{ g} = \frac{4 \text{ ml}}{200 \text{ g}} \times 180 = 3,6 \text{ ml}$$

$$\text{Volume pemberian tikus } 175 \text{ g} = \frac{4 \text{ ml}}{200 \text{ g}} \times 175 = 3,5 \text{ ml}$$

$$\text{Volume pemberian tikus } 188 \text{ g} = \frac{4 \text{ ml}}{200 \text{ g}} \times 188 = 3,76 \text{ ml}$$

$$\text{Volume pemberian tikus } 185 \text{ g} = \frac{4 \text{ ml}}{200 \text{ g}} \times 185 = 3,7 \text{ ml}$$

$$\text{Volume pemberian tikus } 185 \text{ g} = \frac{4 \text{ ml}}{200 \text{ g}} \times 185 = 3,7 \text{ ml}$$

Dosis 1

(Dosis = 17,5 mg/KgBB tikus. Larutan stok = 50 mg/50 ml = 1 mg/ml)

$$\text{Dosis tikus } 180 = \frac{17,5 \text{ mg}}{1000 \text{ gram}} \times 180 \text{ gram} = 3,15 \text{ mg}$$

$$\text{Volume pemberian} = \frac{3,15 \text{ mg}}{1 \text{ mg/ml}} = 3,15 \text{ ml}$$

$$\text{Dosis tikus } 180 = \frac{17,5 \text{ mg}}{1000 \text{ gram}} \times 180 \text{ gram} = 3,15 \text{ mg}$$

$$\text{Volume pemberian} = \frac{3,15 \text{ mg}}{1 \text{ mg/ml}} = 3,15 \text{ ml}$$

$$\text{Dosis tikus } 188 = \frac{17,5 \text{ mg}}{1000 \text{ gram}} \times 188 \text{ gram} = 3,23 \text{ mg}$$

$$\text{Volume pemberian} = \frac{3,23 \text{ mg}}{1 \text{ mg/ml}} = 3,23 \text{ ml}$$

$$\text{Dosis tikus } 190 = \frac{17,5 \text{ mg}}{1000 \text{ gram}} \times 190 \text{ gram} = 3,32 \text{ mg}$$

$$\text{Volume pemberian} = \frac{3,32 \text{ mg}}{1 \text{ mg/ml}} = 3,32 \text{ ml}$$

$$\text{Dosis tikus } 190 = \frac{17,5 \text{ mg}}{1000 \text{ gram}} \times 190 \text{ gram} = 3,32 \text{ mg}$$

$$\text{Volume pemberian} = \frac{3,32 \text{ mg}}{1 \text{ mg/ml}} = 3,32 \text{ ml}$$

Dosis 2

(Dosis = 35 mg/KgBB tikus. Larutan stok = 100 mg/50 ml = 2 mg/ml)

$$\text{Dosis tikus 190} = \frac{35 \text{ mg}}{1000 \text{ gram}} \times 190 \text{ gram} = 6,65 \text{ mg}$$

$$\text{Volume pemberian} = \frac{6,65 \text{ mg}}{2 \text{ mg/ml}} = 3,32 \text{ ml}$$

$$\text{Dosis tikus 190} = \frac{35 \text{ mg}}{1000 \text{ gram}} \times 190 \text{ gram} = 6,65 \text{ mg}$$

$$\text{Volume pemberian} = \frac{6,65 \text{ mg}}{2 \text{ mg/ml}} = 3,32 \text{ ml}$$

$$\text{Dosis tikus 195} = \frac{35 \text{ mg}}{1000 \text{ gram}} \times 195 \text{ gram} = 6,82 \text{ mg}$$

$$\text{Volume pemberian} = \frac{6,82 \text{ mg}}{2 \text{ mg/ml}} = 3,41 \text{ ml}$$

$$\text{Dosis tikus 185} = \frac{35 \text{ mg}}{1000 \text{ gram}} \times 185 \text{ gram} = 6,47 \text{ mg}$$

$$\text{Volume pemberian} = \frac{6,47 \text{ mg}}{2 \text{ mg/ml}} = 3,23 \text{ ml}$$

$$\text{Dosis tikus 185} = \frac{35 \text{ mg}}{1000 \text{ gram}} \times 185 \text{ gram} = 6,47 \text{ mg}$$

$$\text{Volume pemberian} = \frac{6,47 \text{ mg}}{2 \text{ mg/ml}} = 3,23 \text{ ml}$$

Dosis 3

(Dosis = 70 mg/KgBB Tikus. Larutan stok = 200 mg/50 ml = 4 mg/ml)

$$\text{Dosis tikus 190} = \frac{70 \text{ mg}}{1000 \text{ gram}} \times 190 \text{ gram} = 13,3 \text{ mg}$$

$$\text{Volume pemberian} = \frac{13,3 \text{ mg}}{4 \text{ mg/ml}} = 3,32 \text{ ml}$$

$$\text{Dosis tikus 190} = \frac{70 \text{ mg}}{1000 \text{ gram}} \times 190 \text{ gram} = 13,3 \text{ mg}$$

$$\text{Volume pemberian} = \frac{13,3 \text{ mg}}{4 \text{ mg/ml}} = 3,32 \text{ ml}$$

$$\text{Dosis tikus 195} = \frac{70 \text{ mg}}{1000 \text{ gram}} \times 195 \text{ gram} = 13,65 \text{ mg}$$

$$\text{Volume pemberian} = \frac{13,65 \text{ mg}}{4 \text{ mg/ml}} = 3,41 \text{ ml}$$

$$\text{Dosis tikus 185} = \frac{70 \text{ mg}}{1000 \text{ gram}} \times 185 \text{ gram} = 13,32 \text{ mg}$$

$$\text{Volume pemberian} = \frac{13,32 \text{ mg}}{4 \text{ mg/ml}} = 3,32 \text{ ml}$$

$$\text{Dosis tikus 185} = \frac{70 \text{ mg}}{1000 \text{ gram}} \times 185 \text{ gram} = 13,32 \text{ mg}$$

$$\text{Volume pemberian} = \frac{13,32 \text{ mg}}{4 \text{ mg/ml}} = 3,32 \text{ ml}$$

Lampiran 13. Hasil analisis statistika

a. Kesegaman bobot

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
keragaman bobot	60	1.471	1.569	1.53028	.024074
Valid N (listwise)	60				

One-Sample Kolmogorov-Smirnov Test

		keragaman bobot
N		60
Normal Parameters ^{a,b}	Mean	1.53028
	Std. Deviation	.024074
Most Extreme Differences	Absolute	.111
	Positive	.054
	Negative	-.111
Test Statistic		.111
Asymp. Sig. (2-tailed)		.063 ^c

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
keragaman bobot	Based on Mean	5.434	2	57	.007
	Based on Median	4.667	2	57	.013
	Based on Median and with adjusted df	4.667	2	47.645	.014
	Based on trimmed mean	5.169	2	57	.009

Test Statistics^{a,b}

keragaman

bobot

Kruskal-Wallis H	5.119
df	2
Asymp. Sig.	.077

a. Kruskal Wallis Test

b. Grouping Variable: Formula

b. Kekerasan tablet

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
kekerasan tablet	30	2.0	7.0	4.337	1.2960
Valid N (listwise)	30				

One-Sample Kolmogorov-Smirnov Test

kekerasan tablet

N	30	
Normal Parameters ^{a,b}	Mean	4.337
	Std. Deviation	1.2960
Most Extreme Differences	Absolute	.107
	Positive	.107
	Negative	-.050
Test Statistic	.107	
Asymp. Sig. (2-tailed)	.200 ^{c,d}	

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
kekerasan tablet	Based on Mean	1.444	2	27	.254
	Based on Median	1.383	2	27	.268
	Based on Median and with adjusted df	1.383	2	24.755	.269
	Based on trimmed mean	1.450	2	27	.252

ANOVA

kekerasan tablet

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	34.067	2	17.033	31.407	.000
Within Groups	14.643	27	.542		
Total	48.710	29			

Post Hoc Tests

Multiple Comparisons

Dependent Variable: kekerasan tablet

Tukey HSD

(I) formula	(J) formula	Mean Difference			95% Confidence Interval	
		(I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
Formula I	formula II	1.1000*	.3293	.007	.283	1.917
	Formula III	2.6000*	.3293	.000	1.783	3.417
formula II	Formula I	-1.1000*	.3293	.007	-1.917	-.283
	Formula III	1.5000*	.3293	.000	.683	2.317
Formula III	Formula I	-2.6000*	.3293	.000	-3.417	-1.783
	formula II	-1.5000*	.3293	.000	-2.317	-.683

*. The mean difference is significant at the 0.05 level.

Homogeneous Subsets

kekerasan tablet

Tukey HSD^a

formula	N	Subset for alpha = 0.05		
		1	2	3
Formula III	10	2.970		
formula II	10		4.470	
Formula I	10			5.570
Sig.		1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 10,000.

c. Analisis efek diuretic

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Volume urine	150	.000	5.300	1.29400	1.054185
Valid N (listwise)	150				

One-Sample Kolmogorov-Smirnov Test

		Volume urine
N		150
Normal Parameters ^{a,b}	Mean	1.29400
	Std. Deviation	1.054185
Most Extreme Differences	Absolute	.129
	Positive	.129
	Negative	-.110
Test Statistic		.129
Asymp. Sig. (2-tailed)		.000 ^c

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Case Processing Summary

	kelompok uji	Valid		Cases Missing		Total	
		N	Percent	N	Percent	N	Percent
Volume urine	Kontrol positif	30	100.0%	0	0.0%	30	100.0%
	Kontrol negatif	30	100.0%	0	0.0%	30	100.0%
	Dosis 1	30	100.0%	0	0.0%	30	100.0%
	Dosis 2	30	100.0%	0	0.0%	30	100.0%
	Dosis 3	30	100.0%	0	0.0%	30	100.0%

Descriptives

kelompok uji		Statistic	Std. Error		
Volume urine	Kontrol positif	Mean	1.72667	.149957	
		95% Confidence Interval for Mean	Lower Bound	1.41997	
			Upper Bound	2.03336	
		5% Trimmed Mean	1.70370		
		Median	1.72500		
		Variance	.675		
		Std. Deviation	.821346		
		Minimum	.300		
		Maximum	3.800		
		Range	3.500		
		Interquartile Range	1.263		
		Skewness	.315	.427	
		Kurtosis	-.074	.833	
		Kontrol negatif	Mean	.75167	.115058
			95% Confidence Interval for Mean	Lower Bound	.51635
	Upper Bound			.98699	
	5% Trimmed Mean		.72407		
	Median		.50000		
	Variance		.397		
	Std. Deviation		.630200		
	Minimum		.000		
	Maximum		2.000		
	Range		2.000		
	Interquartile Range		.962		
	Skewness		.743	.427	
	Kurtosis		-.493	.833	
	Dosis 1		Mean	1.21333	.214957
			95% Confidence Interval for Mean	Lower Bound	.77370
		Upper Bound		1.65297	
		5% Trimmed Mean	1.11852		
		Median	.85000		
		Variance	1.386		
		Std. Deviation	1.177368		
Minimum		.000			
Maximum		4.200			

	Range		4.200	
	Interquartile Range		1.463	
	Skewness		1.317	.427
	Kurtosis		1.062	.833
Dosis 2	Mean		1.49333	.242410
	95% Confidence Interval for	Lower Bound	.99755	
	Mean	Upper Bound	1.98912	
	5% Trimmed Mean		1.38333	
	Median		1.20000	
	Variance		1.763	
	Std. Deviation		1.327737	
	Minimum		.000	
	Maximum		5.300	
	Range		5.300	
	Interquartile Range		1.425	
	Skewness		1.256	.427
	Kurtosis		1.407	.833
Dosis 3	Mean		1.28500	.177307
	95% Confidence Interval for	Lower Bound	.92237	
	Mean	Upper Bound	1.64763	
	5% Trimmed Mean		1.24630	
	Median		1.12500	
	Variance		.943	
	Std. Deviation		.971148	
	Minimum		.000	
	Maximum		3.300	
	Range		3.300	
	Interquartile Range		1.388	
	Skewness		.626	.427
	Kurtosis		-.471	.833

Perbandingan hasil signifikansi control positif dengan dosis 1, dosis 2, dosis 3 dan control negative.

Ranks

	Kelompok_uji	N	Mean Rank
Kontrol_Positif	kontrol positif	30	40.25
	kontrol negatif	30	20.75
	Total	60	
Kontrol_Negatif	kontrol positif	30	15.50
	Total	30 ^a	

a. There is only one non-empty group. Kruskal-Wallis Test cannot be performed.

Test Statistics^{a,b}

Kontrol_Positif	
Kruskal-Wallis H	18.736
df	1
Asymp. Sig.	.000

a. Kruskal Wallis Test

b. Grouping Variable: Kelompok_uji

Ranks

	Kelompok_uji	N	Mean Rank
Kontrol_Positif	kontrol positif	30	36.28
	dosis 1	30	24.72
	Total	60	
Dosis_1	kontrol positif	30	15.50
	Total	30 ^a	

a. There is only one non-empty group. Kruskal-Wallis Test cannot be performed.

Test Statistics^{a,b}

Kontrol_Positif	
Kruskal-Wallis H	6.592
df	1
Asymp. Sig.	.010

a. Kruskal Wallis Test

b. Grouping Variable: Kelompok_uji

Ranks

	Kelompok_uji	N	Mean Rank
Kontrol_Positif	kontrol positif	30	33.87
	dosis 2	30	27.13
	Total	60	
Dosis_2	kontrol positif	30	15.50
	Total	30 ^a	

a. There is only one non-empty group. Kruskal-Wallis Test cannot be performed.

Test Statistics^{a,b}

	Kontrol_Positif
Kruskal-Wallis H	2.234
df	1
Asymp. Sig.	.135

a. Kruskal Wallis Test

b. Grouping Variable: Kelompok_uji

Ranks

	Kelompok_uji	N	Mean Rank
Kontrol_Positif	kontrol positif	30	34.07
	dosis 3	30	26.93
	Total	60	
Dosis_3	kontrol positif	30	15.50
	Total	30 ^a	

a. There is only one non-empty group. Kruskal-Wallis Test cannot be performed.

Test Statistics^{a,b}

	Kontrol_Positif
Kruskal-Wallis H	2.507
df	1
Asymp. Sig.	.113

a. Kruskal Wallis Test

b. Grouping Variable: Kelompok_uji

Lampiran 14. Dokumentasi penelitian



Ketinggian granul



diameter granul



Kadar air granul *effervescent*



Penimbangan 20 tablet



Tablet effervescent tanpa ekstrak



Tablet effervescent formula I



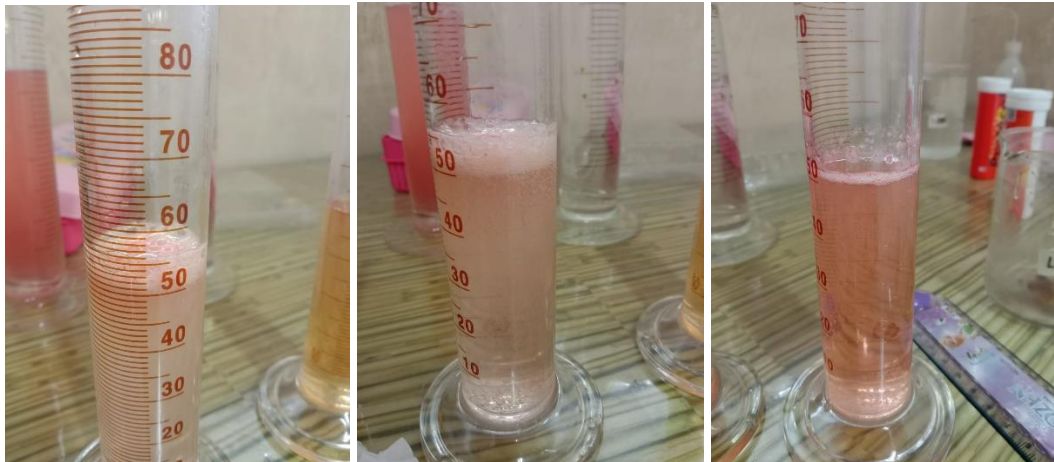
Tablet effervescent formula II



Tablet effervescent formula III



Uji kekerasan tablet (*Hardness tester*)



Uji ketinggian buih



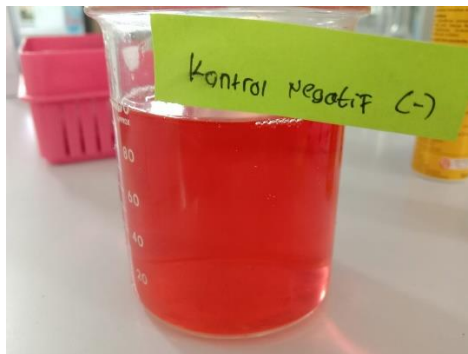
Uji kerapuhan tablet (*Friability tester*)



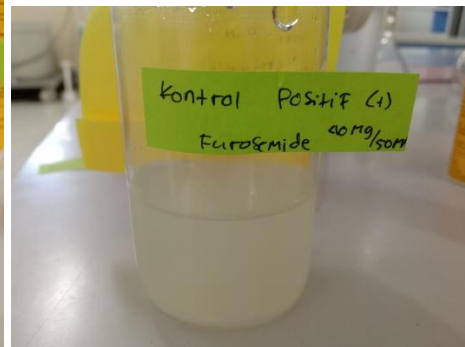
Uji derajat keasaman (pH meter)



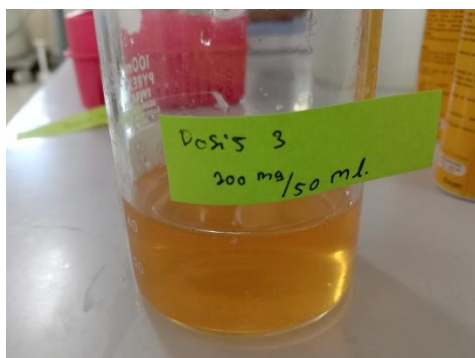
Kandang metabolisme diuretik



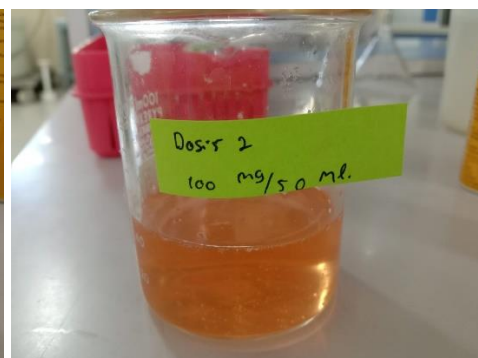
Kontrol negatif



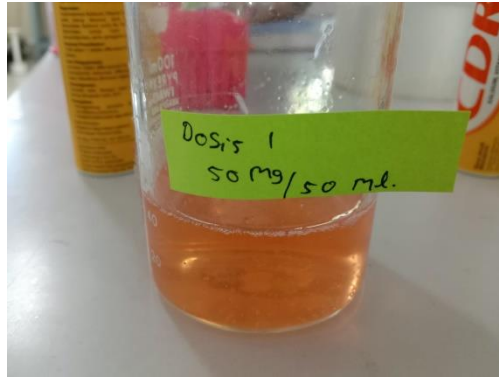
kontrol positif



Larutan uji dosis 3



larutan uji dosis 2



Larutan uji dosis 1