

Lampiran 1. Surat Keterangan Determinasi Daun Pare (*Momordica charantia* L.)



KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN
UNIVERSITAS DIPONEGORO
FAKULTAS SAINS DAN MATEMATIKA
LAB EKOLOGI & BIOSISTEMATIK JURUSAN BOLOGI
Jl. Prof H Soedarto SH Tembalang Semarang, 024 7474754, 024 76480923

SURAT KETERANGAN

Yang bertanda tangan dibawah ini, menyatakan bahwa mahasiswa sbb :

Nama : Arief Maghfurin
NIM : 095010484
Fakultas/Prodi : FARMASI
Perguruan Tinggi : UNIVERSITAS WAHID HASYIM SEMARANG
Judul Karya Ilmiah : ' Formulasi Tablet Hisap Ekstrak Etanol Daun Pare
(*Momordica charantia*) dengan Kombinasi Pemanis
Fruktosa dan Aspartam"

Pembimbing : -

Telah mendeterminasikan/mengidentifikasi sampel tumbuhan (satu jenis) di Laboratorium Ekologi dan Biosistematika Jurusan Biologi Fak MIPA UNDIP. Hasil determinasi/identifikasi terlampir.

Demikian surat keterangan ini dibuat untuk dapat digunakan seperlunya.

Semarang, Maret 2016

Laboratorium Ekologi & Biosistematik
Kepala,



Dr. Udi Tarwotjo, MP
NIP 195707041986031003

Lampiran 1. Lanjutan...



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HASIL DETERMINASI/IDENTIFIKASI

Klasifikasi

Kingdom	: Plantae (tumbuhan)
Subkingdom	: Tracheobionta (berpembuluh)
Superdivisio	: Spermatophyta (menghasilkan biji)
Divisio	: Magnoliophyta (berbunga)
Kelas	: Magnoliopsida - Dicotylodoneae
Ordo	: Violales
Famili	: Cucurbitaceae
Genus	: <i>Momordica</i>
Spesies	: <i>Momordica charantia</i> L. (Pare)

Hasil determinasi/identifikasi :

1b, 2b, 3b,. Golongan 2 : Tanaman dengan alat pembelit. 27a, 28b, 29b, 30b, 31b.
Famili 118 :Cucurbitaceae. 1a. 2b, 3b, Genus : *Momordica*. Species : *Momordica charantia* L. (Pare, Pepare, Paria).

Deskripsi :

Tumbuhan setahun, manjalar memanjat, berbau tidak enak. Batang berusuk 5, panjang 2-5 m, yang muda berambut rapat. Daun berbagi 5-9, dalam, bulat, pangkal bentuk jantung, garis tengah 4-17 cm, taju berhigi kasar. Tangkai bunga 5-15 cm, kelopak bunga bentuk lonceng, mahkota bunga bentuk roda, taju bentuk memanjang hingga bulat telur terbalik, 1,5-2 kali 1-1,3 cm. Bunga jantan dengan benang sari 3, kepala sari oranye, semula bergandengan satu sama lain kemudian lepas, bunga betina dengan staminodia 3, bentuk sisik, bakal buah berparuh panjang, berduri tempel halus dan berambut panjang. Buah memanjang bentuk spul silindris dengan 8-10 rusuk memanjang, berjerawat tak beraturan, ketika masak berwarna oranye, pecah dalam 3 katup. Biji coklat kekuningan pucat, memanjang.

PUSTAKA :

Backer and van den Brink (1968) Flora of Java, Vol. I – III, Wolters – Noordhoff NV – Groningen – The Netherlands.
Cronquist, A. 1981. An Integrated System of Classification of Flowering Plants. Columbia University Press, New York.
Van Steenis, CGGJ. (1985) Flora untuk sekolah di Indonesia, terjemahan Moesa Suryowinoto, dkk) PT. Pradnya Paramita Jakarta Pusat.

Lampiran 1. Lanjutan..



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Lampiran 2. Surat keterangan telah Selesai Melakukan Penelitian di Universitas Wahid Hasyim Semarang



**UNIVERSITAS WAHID HASYIM
FAKULTAS FARMASI
BAGIAN BIOLOGI FARMASI**

Jl. Menoreh Tengah X / 22 Sampangan – Semarang 50236 Telp. (024) 8505680 – 8505681 fax. (024) 8505680

SURAT KETERANGAN

No. 028/Lab. Biologi Farmasi/C.05/UWH/VI/2016

Assalamu'alaikum Wr. Wb.

Yang bertanda tangan dibawah ini, Kepala Bagian Biologi Farmasi Universitas Wahid Hasyim Semarang menerangkan bahwa:

Nama : Arief Maghfurin
NIM : 095010484
Fakultas : Farmasi

Telah melakukan pembuatan ekstrak daun pare dalam rangka penelitian dengan judul:
"Formulasi Tablet Hisap Ekstrak Etanol Daun Pare (*Momordica charantia* L.) dengan Kombinasi Pemanis Fruktosa dan Aspartam".

Demikian surat keterangan ini dibuat untuk dipergunakan semestinya.

Wassalamu'alaikum Wr. Wb.

Semarang, 30 Juni 2016

Ka. Bag Biologi Farmasi



Devi Nisa Hidayati, M.Sc

Lanjutan Lampiran 2. Surat keterangan telah Selesai Melakukan Penelitian di Universitas Wahid Hasyim Semarang

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BAGIAN FARMASETIKA
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SURAT KETERANGAN
No. 03%/Lab.Farmasetika/C.05/UWH/IX/2016

Assalamu'alaikum Wr. Wb.

Yang bertanda tangan dibawah ini, Kepala Bagian Farmasetika & Farmasi Fisika Fakultas Farmasi Universitas Wahid Hasyim Semarang menerangkan bahwa :

Nama : Arief Maghfurin
NIM : 095010484
Fakultas : Farmasi

Telah melakukan formulasi di Laboratorium Teknologi Farmasi dalam rangka penelitian dengan judul :

"Formulasi Tablet Hisap Ekstrak Etanol Daun Pare (*Momordica charantia* L.) dengan Kombinasi Pemanis Fruktosa dan Aspartam"

Demikian surat keterangan ini dibuat untuk dipergunakan semestinya.

Wassalamu'alaikum Wr. Wb.

Semarang, September 2016


Zulfa, M.Sc, Apt

Lampiran 3. Gambar Alat yang digunakan dalam Penelitian



Timbangan listrik (HENHERR)



Oven (MEMMERT)



Blender (MASPION)



Moisture balance (OHAUS)



Bejana maserasi



Rotary evaporator (HEIDOLPH)



Volumenomete



Timbangan analitik (OHAUS)



Corong stainless stell

Lampiran 3. Lanjutan...



Friability tester (ERWEKA)



Single punch (KORSCH)



Hardness tester (ERWEKA)



Lampiran 4. Hasil Pemeriksaan Kecepatan Alir Granul

$$\text{Kecepatan alir} = \frac{\text{Berat granul (g)}}{\text{Waktu alir (s)}}$$

Replikasi	Formula (gram/detik)				
	I	II	III	IV	V
1	12,05	14,28	13,16	12,50	13,51
2	13,89	12,19	12,50	12,84	13,15
3	13,51	14,08	12,66	14,31	12,20
$\bar{x}$	13	13,79	14,09	13,48	16,83
SD	0,97	1,15	0,34	0,96	0,67

Formula I

$$1. \text{Kecepatan alir} = \frac{100,042 \text{ g}}{8,3 \text{ s}} = 12,05 \text{ g/s}$$

$$2. \text{Kecepatan alir} = \frac{100,030 \text{ g}}{7,2 \text{ s}} = 13,89 \text{ g/s}$$

$$3. \text{Kecepatan alir} = \frac{100,013 \text{ g}}{7,4 \text{ s}} = 13,51 \text{ g/s}$$

Formula II

$$1. \text{Kecepatan alir} = \frac{100,020 \text{ g}}{7,0 \text{ s}} = 14,28 \text{ g/s}$$

$$2. \text{Kecepatan alir} = \frac{100,025 \text{ g}}{8,2 \text{ s}} = 12,19 \text{ g/s}$$

$$3. \text{Kecepatan alir} = \frac{100,012 \text{ g}}{7,1 \text{ s}} = 14,08 \text{ g/s}$$

Formula III

$$1. \text{Kecepatan alir} = \frac{100,017 \text{ g}}{7,6 \text{ s}} = 13,16 \text{ g/s}$$

$$2. \text{Kecepatan alir} = \frac{100,022 \text{ g}}{8,0 \text{ s}} = 12,50 \text{ g/s}$$

$$3. \text{Kecepatan alir} = \frac{100,019 \text{ g}}{7,9 \text{ s}} = 12,66 \text{ g/s}$$

Lampiran 4. Lanjutan...**Formula IV**

$$1. \text{Kecepatan alir} = \frac{100,029 \text{ g}}{8,0 \text{ s}} = 12,50 \text{ g/s}$$

$$2. \text{Kecepatan alir} = \frac{100,012 \text{ g}}{7,8 \text{ s}} = 12,84 \text{ g/s}$$

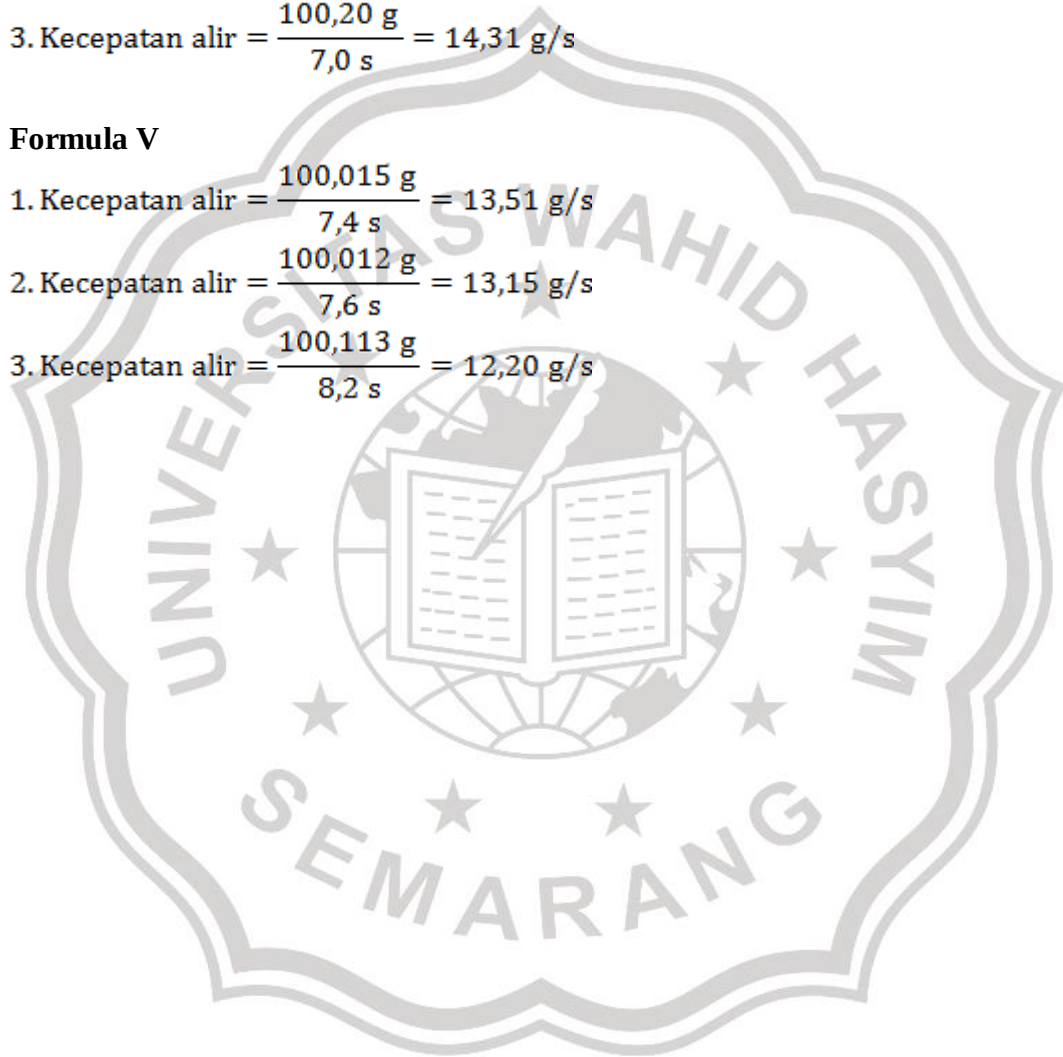
$$3. \text{Kecepatan alir} = \frac{100,20 \text{ g}}{7,0 \text{ s}} = 14,31 \text{ g/s}$$

Formula V

$$1. \text{Kecepatan alir} = \frac{100,015 \text{ g}}{7,4 \text{ s}} = 13,51 \text{ g/s}$$

$$2. \text{Kecepatan alir} = \frac{100,012 \text{ g}}{7,6 \text{ s}} = 13,15 \text{ g/s}$$

$$3. \text{Kecepatan alir} = \frac{100,113 \text{ g}}{8,2 \text{ s}} = 12,20 \text{ g/s}$$



Lampiran 5. Hasil Pemeriksaan Sudut Diam Granul

$$\tan \alpha = \frac{H}{R}$$

Replikasi	Formula (°)				
	I	II	III	IV	V
1	26,10	27,02	27,92	29,68	27,02
2	27,02	31,79	26,10	28,54	28,81
3	29,24	27,83	29,24	28,81	30,11
$\bar{x}$	27,45	28,88	27,75	29,01	28,64
SD	1,61	2,55	1,57	0,59	1,55

Formula I

1. D1 = 12 cm D rata-rata = 12,25 cm H = 3 cm

D2 = 12,5 cm R = 6,125 cm

$$\tan \alpha = \frac{3 \text{ cm}}{6,125 \text{ cm}}$$

$$\alpha = 26,10^\circ$$

2. D1 = 12,5 cm D rata-rata = 12,5 cm H = 3,2 cm

D2 = 12,5 cm R = 6,25 cm

$$\tan \alpha = \frac{3,2 \text{ cm}}{6,25 \text{ cm}}$$

$$\alpha = 27,02^\circ$$

3. D1 = 12 cm D rata-rata = 12,5 cm H = 3,5 cm

D2 = 13 cm R = 6,25 cm

$$\tan \alpha = \frac{3,5 \text{ cm}}{6,25 \text{ cm}}$$

$$\alpha = 29,24^\circ$$

Formula II

1. D1 = 13,5 cm D rata-rata = 13,25 cm H = 3,4 cm

D2 = 13 cm R = 6,625 cm

$$\tan \alpha = \frac{3,4 \text{ cm}}{6,625 \text{ cm}}$$

$$\alpha = 27,02^\circ$$

2. $D_1 = 12 \text{ cm}$ $D \text{ rata-rata} = 12,25 \text{ cm}$ $H = 3,5 \text{ cm}$

Lampiran 5. Lanjutan...

$D_2 = 12,5 \text{ cm}$ $R = 6,125 \text{ cm}$

$$\tan \alpha = \frac{3,5 \text{ cm}}{6,125 \text{ cm}}$$

$$\alpha = 31,79^\circ$$

3. $D_1 = 12 \text{ cm}$ $D \text{ rata-rata} = 12,00 \text{ cm}$ $H = 3,7 \text{ cm}$

$D_2 = 12 \text{ cm}$ $R = 6 \text{ cm}$

$$\tan \alpha = \frac{3,7 \text{ cm}}{6 \text{ cm}}$$

$$\alpha = 27,83^\circ$$

Formula III

1. $D_1 = 13,5 \text{ cm}$ $D \text{ rata-rata} = 13,5 \text{ cm}$ $H = 3,7 \text{ cm}$

$D_2 = 13,5 \text{ cm}$ $R = 6,75 \text{ cm}$

$$\tan \alpha = \frac{3,7 \text{ cm}}{6,75 \text{ cm}}$$

$$\alpha = 27,92^\circ$$

2. $D_1 = 12,5 \text{ cm}$ $D \text{ rata-rata} = 12,25 \text{ cm}$ $H = 3 \text{ cm}$

$D_2 = 12 \text{ cm}$ $R = 6,125 \text{ cm}$

$$\tan \alpha = \frac{3 \text{ cm}}{6,125 \text{ cm}}$$

$$\alpha = 26,10^\circ$$

3. $D_1 = 13 \text{ cm}$ $D \text{ rata-rata} = 12,75 \text{ cm}$ $H = 3,6 \text{ cm}$

$D_2 = 12,5 \text{ cm}$ $R = 6,375 \text{ cm}$

$$\tan \alpha = \frac{3,6 \text{ cm}}{6,375 \text{ cm}}$$

$$\alpha = 29,24^\circ$$

Formula IV

1. $D_1 = 12,5 \text{ cm}$ $D \text{ rata-rata} = 13 \text{ cm}$ $H = 3,7 \text{ cm}$

$D_2 = 13,5 \text{ cm}$ $R = 6,5 \text{ cm}$

$$\tan \alpha = \frac{3,7 \text{ cm}}{6,5 \text{ cm}}$$

$$\alpha = 29,68^\circ$$

2. $D_1 = 13 \text{ cm}$ $D \text{ rata-rata} = 12,5 \text{ cm}$ $H = 3,4 \text{ cm}$
 $D_2 = 12 \text{ cm}$ $R = 6,25 \text{ cm}$

Lampiran 5. Lanjutan...

$$\tan \alpha = \frac{3,4 \text{ cm}}{6,25 \text{ cm}}$$

$$\alpha = 28,54^\circ$$

3. $D_1 = 13,5 \text{ cm}$ $D \text{ rata-rata} = 13,5 \text{ cm}$ $H = 3,7 \text{ cm}$
 $D_2 = 13,5 \text{ cm}$ $R = 6,75 \text{ cm}$

$$\tan \alpha = \frac{3,7 \text{ cm}}{6,75 \text{ cm}}$$

$$\alpha = 28,81^\circ$$

Formula V

1. $D_1 = 12,3 \text{ cm}$ $D \text{ rata-rata} = 12,65 \text{ cm}$ $H = 3,2 \text{ cm}$
 $D_2 = 13 \text{ cm}$ $R = 6,325 \text{ cm}$

$$\tan \alpha = \frac{3,2 \text{ cm}}{6,325 \text{ cm}}$$

$$\alpha = 27,02^\circ$$

2. $D_1 = 12,2 \text{ cm}$ $D \text{ rata-rata} = 12,85 \text{ cm}$ $H = 3,5 \text{ cm}$
 $D_2 = 13,5 \text{ cm}$ $R = 6,425 \text{ cm}$

$$\tan \alpha = \frac{3,5 \text{ cm}}{6,425 \text{ cm}}$$

$$\alpha = 28,81^\circ$$

3. $D_1 = 12,5 \text{ cm}$ $D \text{ rata-rata} = 13,1 \text{ cm}$ $H = 3,8 \text{ cm}$
 $D_2 = 13,7 \text{ cm}$ $R = 6,55 \text{ cm}$

$$\tan \alpha = \frac{3,8 \text{ cm}}{6,55 \text{ cm}}$$

$$\alpha = 30,11^\circ$$

Lampiran 6. Hasil Pemeriksaan Kompresibilitas Granul

$$I \% = \frac{V_o - V_f}{V_o} \times 100$$

Replikasi	Formula (%)				
	I	II	III	IV	V
1	15,00	18,00	17,00	16,00	17,00
2	17,00	18,00	20,00	15,00	13,00
3	16,00	16,00	18,00	15,00	14,00
$\bar{x}$	16	17,33	18,33	15,33	14,66
SD	1	1,15	1,52	0,57	2,08

Formula I

1. $V_o = 100 \text{ mL}$

$V_f = 85 \text{ mL}$

$$I \% = \frac{100 \text{ mL} - 85 \text{ mL}}{100 \text{ mL}} \times 100$$

$$= 15\%$$

2. $V_o = 100 \text{ mL}$

$V_f = 83 \text{ mL}$

$$I \% = \frac{100 \text{ mL} - 83 \text{ mL}}{100 \text{ mL}} \times 100$$

$$= 17 \%$$

3. $V_o = 100 \text{ mL}$

$V_f = 84 \text{ mL}$

$$I \% = \frac{100 \text{ mL} - 84 \text{ mL}}{100 \text{ mL}} \times 100$$

$$= 16 \%$$

Formula II

1. $V_o = 100 \text{ mL}$

$V_f = 82 \text{ mL}$

$$I \% = \frac{100 \text{ mL} - 82 \text{ mL}}{100 \text{ mL}} \times 100$$

$$= 18 \%$$

2. $V_o = 100 \text{ mL}$

Lampiran 6. Lanjutan...

$$V_f = 84 \text{ mL}$$

$$I \% = \frac{100 \text{ mL} - 84 \text{ mL}}{100 \text{ mL}} \times 100$$

$$= 16 \%$$

3. $V_o = 100 \text{ mL}$

$$V_f = 83 \text{ mL}$$

$$I \% = \frac{100 \text{ mL} - 83 \text{ mL}}{100 \text{ mL}} \times 100$$

$$= 17 \%$$

Formula III

1. $V_o = 100 \text{ mL}$

$$V_f = 83 \text{ mL}$$

$$I \% = \frac{100 \text{ mL} - 83 \text{ mL}}{100 \text{ mL}} \times 100$$

$$= 17 \%$$

2. $V_o = 100 \text{ mL}$

$$V_f = 80 \text{ mL}$$

$$I \% = \frac{100 \text{ mL} - 80 \text{ mL}}{100 \text{ mL}} \times 100$$

$$= 20 \%$$

3. $V_o = 100 \text{ mL}$

$$V_f = 82 \text{ mL}$$

$$I \% = \frac{100 \text{ mL} - 82 \text{ mL}}{100 \text{ mL}} \times 100$$

$$= 18 \%$$

Formula IV

1. $V_o = 100 \text{ mL}$

$$V_f = 84 \text{ mL}$$

$$I \% = \frac{100 \text{ mL} - 84 \text{ mL}}{100 \text{ mL}} \times 100$$

$$= 16 \%$$

2. $V_o = 100 \text{ mL}$

$V_f = 85 \text{ mL}$

$$I \% = \frac{100 \text{ mL} - 85 \text{ mL}}{100 \text{ mL}} \times 100$$

$$= 15 \%$$

3. $V_o = 100 \text{ mL}$

Lampiran 6. Lanjutan...

$V_f = 85 \text{ mL}$

$$I \% = \frac{100 \text{ mL} - 85 \text{ mL}}{100 \text{ mL}} \times 100$$

$$= 15 \%$$

Formula V

1. $V_o = 100 \text{ mL}$

$V_f = 83 \text{ mL}$

$$I \% = \frac{100 \text{ mL} - 83 \text{ mL}}{100 \text{ mL}} \times 100$$

$$= 17 \%$$

2. $V_o = 100 \text{ mL}$

$V_f = 87 \text{ mL}$

$$I \% = \frac{100 \text{ mL} - 87 \text{ mL}}{100 \text{ mL}} \times 100$$

$$= 13 \%$$

3. $V_o = 100 \text{ mL}$

$V_f = 86 \text{ mL}$

$$I \% = \frac{100 \text{ mL} - 86 \text{ mL}}{100 \text{ mL}} \times 100$$

$$= 14 \%$$

Lampiran 7. Hasil Pemeriksaan Keseragaman Bobot Tablet Hisap

No	Bobot tablet (gram)				
	F I	F II	F III	F IV	F V
1	1,049	1,009	1,016	0,949	1,011
2	1,051	1,02	1,032	0,964	1,003
3	1,042	1,008	1,015	1,054	1,019
4	1,029	1,008	1,022	0,994	1,016
5	1,029	1,014	1,004	0,969	1,009
6	1,026	1,027	1,003	1,057	1,005
7	1	1,007	1,02	1,019	1,016
8	1,05	1,011	1,003	1,028	1,007
9	1,043	1,018	1,007	1,011	1,018
10	1	1,002	1	1,002	1,012
11	1,011	1,018	0,99	1,013	1,006
12	1,012	1,022	1,013	0,992	1,002
13	1	1,008	1,032	0,975	0,995
14	1,016	1,021	0,999	1,053	1,013
15	1,024	1,01	1,017	0,985	1,028
16	1,018	1,004	0,998	1,031	1,023
17	1,02	1,032	1,002	1,014	1,006
18	1,004	1,02	1,015	1,006	0,997
19	1,048	1,024	1,002	1,027	1,009
20	1,003	1,025	1,035	1,022	1,015
$\bar{x}$	1,02	1,01	1,01	1,01	1,01
SD	0,01	0,01	0,01	0,03	0,01
CV (%)	0,98	0,99	0,99	2,97	0,99

Lampiran 7. Lanjutan...

Formula I

Bobot rata-rata 20 tablet = 1,003 gram

$$\text{Penyimpangan 5 \%} = \frac{5}{100} \times 1,003 \text{ gram} = 0,050 \text{ gram}$$

$$\begin{aligned} \text{Jadi berat tablet} &= 1,003 \text{ gram} \pm 0,050 \text{ gram} \\ &= 0,953-1,053 \text{ gram} \end{aligned}$$

$$\text{Penyimpangan 10 \%} = \frac{10}{100} \times 1,003 \text{ gram} = 0,100 \text{ gram}$$

$$\begin{aligned} \text{Jadi berat tablet} &= 1,003 \text{ gram} \pm 0,100 \text{ gram} \\ &= 0,903-1,103 \text{ gram} \end{aligned}$$

Formula II

Bobot rata-rata 20 tablet = 1,025 gram

$$\text{Penyimpangan 5 \%} = \frac{5}{100} \times 1,025 \text{ gram} = 0,051 \text{ gram}$$

$$\begin{aligned} \text{Jadi berat tablet} &= 1,025 \text{ gram} \pm 0,051 \text{ gram} \\ &= 0,974-1,076 \text{ gram} \end{aligned}$$

$$\text{Penyimpangan 10 \%} = \frac{10}{100} \times 1,025 \text{ gram} = 0,102 \text{ gram}$$

$$\begin{aligned} \text{Jadi berat tablet} &= 1,025 \text{ gram} \pm 0,102 \text{ gram} \\ &= 0,923-1,127 \text{ gram} \end{aligned}$$

Formula III

Bobot rata-rata 20 tablet = 1,035 gram

$$\text{Penyimpangan 5 \%} = \frac{5}{100} \times 1,035 \text{ gram} = 0,051 \text{ gram}$$

Lampiran 7. Lanjutan...

Jadi berat tablet = 1,035 gram $\pm$ 0,051 gram
= 0,984-1,086 gram

$$\text{Penyimpangan 10 \%} = \frac{10}{100} \times 1,035 \text{ gram} = 0,103 \text{ gram}$$

Jadi berat tablet = 1,035 gram $\pm$ 0,103 gram
= 0,932-1,138 gram

Formula IV

Bobot rata-rata 20 tablet = 1,022 gram

$$\text{Penyimpangan 5 \%} = \frac{5}{100} \times 1,022 \text{ gram} = 0,051 \text{ gram}$$

Jadi berat tablet = 1,022 gram $\pm$ 0,051 gram
= 0,971-1,073 gram

$$\text{Penyimpangan 10 \%} = \frac{10}{100} \times 1,022 \text{ gram} = 0,102 \text{ gram}$$

Jadi berat tablet = 1,022 gram $\pm$ 0,102 gram
= 0,92-1,124 gram

Formula V

Bobot rata-rata 20 tablet = 1,015 gram

$$\text{Penyimpangan 5 \%} = \frac{5}{100} \times 1,015 \text{ gram} = 0,051 \text{ gram}$$

Jadi berat tablet = 1,015 gram $\pm$ 0,051 gram

$$= 0,964-1,066 \text{ gram}$$

$$\text{Penyimpangan } 10 \% = \frac{10}{100} \times 1,015 \text{ gram} = 0,101 \text{ gram}$$

$$\begin{aligned} \text{Jadi berat tablet} &= 1,015 \text{ gram} \pm 0,101 \text{ gram} \\ &= 0,914-1,116 \text{ gram} \end{aligned}$$

Lampiran 7. Lanjutan...

Hasil Uji Statistik Keseragaman Bobot Tablet

Keseragaman bobot

Test of Homogeneity of Variances

Keseragaman

Bobot

Levene Statistic	df1	df2	Sig.
10.592	4	95	.000

Tests of Normality

Formulasi		Kolmogorov-Smirnov ^a			Shapiro-Wilk		
		Statistic	Df	Sig.	Statistic	df	Sig.
Keseragaman Bobot	F1	.141	20	.200*	.908	20	.059
	F2	.150	20	.200*	.955	20	.454
	F3	.168	20	.139	.942	20	.258
	F4	.086	20	.200*	.972	20	.803
	F5	.071	20	.200*	.990	20	.999

a. Lilliefors Significance Correction

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

Lampiran 7. Lanjutan...

Kruskal Wallis

Keseragaman Bobot

Test Statistics^{ab}

	Keseragaman Bobot
Chi-Square	7.361
Df	4
Asymp. Sig.	.118

a. Kruskal Wallis Test

b. Grouping Variable:
keseragaman bobot

FI dan FII

Test Statistics^b

	keseragaman bobot
Mann-Whitney U	153.500
Wilcoxon W	363.500
Z	-1.259
Asymp. Sig. (2-tailed)	.208
Exact Sig. [2*(1-tailed Sig.)]	.211 ^a

a. Not corrected for ties.

b. Grouping Variable: FORMULASI

Lampiran 7. Lanjutan...

FI dan FIII

Test Statistics^b

	keseragaman bobot
Mann-Whitney U	122.000
Wilcoxon W	332.000
Z	-2.112
Asymp. Sig. (2-tailed)	.035
Exact Sig. [2*(1-tailed Sig.)]	.035 ^a

a. Not corrected for ties.

b. Grouping Variable: FORMULASI

FI dan FIV

Test Statistics^b

	keseragaman bobot
Mann-Whitney U	144.500
Wilcoxon W	354.500
Z	-1.502
Asymp. Sig. (2-tailed)	.133
Exact Sig. [2*(1-tailed Sig.)]	.134 ^a

a. Not corrected for ties.

b. Grouping Variable: FORMULASI

Lampiran 7. Lanjutan...

FI dan FV

Test Statistics^b

	keseragaman bobot
Mann-Whitney U	117.000
Wilcoxon W	327.000
Z	-2.247
Asymp. Sig. (2-tailed)	.025
Exact Sig. [2*(1-tailed Sig.)]	.024 ^a

a. Not corrected for ties.

b. Grouping Variable: FORMULASI

FII dan FIII

Test Statistics^b

	keseragaman bobot
Mann-Whitney U	143.500
Wilcoxon W	353.500
Z	-1.530
Asymp. Sig. (2-tailed)	.126
Exact Sig. [2*(1-tailed Sig.)]	.127 ^a

a. Not corrected for ties.

b. Grouping Variable: FORMULASI

Lampiran 7. Lanjutan...

FII dan FIV

Test Statistics^b

	keseragaman bobot
Mann-Whitney U	173.500
Wilcoxon W	383.500
Z	-.717
Asymp. Sig. (2-tailed)	.473
Exact Sig. [2*(1-tailed Sig.)]	.478 ^a

a. Not corrected for ties.

b. Grouping Variable: FORMULA

FII dan FV

Test Statistics^b

	keseragaman bobot
Mann-Whitney U	137.500
Wilcoxon W	347.500
Z	-1.692
Asymp. Sig. (2-tailed)	.091
Exact Sig. [2*(1-tailed Sig.)]	.091 ^a

a. Not corrected for ties.

b. Grouping Variable: FORMULA

Lampiran 7. Lanjutan...

FIII dan FIV

Test Statistics^b

	keseragaman bobot
Mann-Whitney U	190.000
Wilcoxon W	400.000
Z	-.271
Asymp. Sig. (2-tailed)	.787
Exact Sig. [2*(1-tailed Sig.)]	.799 ^a

a. Not corrected for ties.

b. Grouping Variable: FORMULA

FIII dan FV

Test Statistics^b

	keseragaman bobot
Mann-Whitney U	196.000
Wilcoxon W	406.000
Z	-.108
Asymp. Sig. (2-tailed)	.914
Exact Sig. [2*(1-tailed Sig.)]	.925 ^a

a. Not corrected for ties.

b. Grouping Variable: FORMULA

Lampiran 7. Lanjutan...

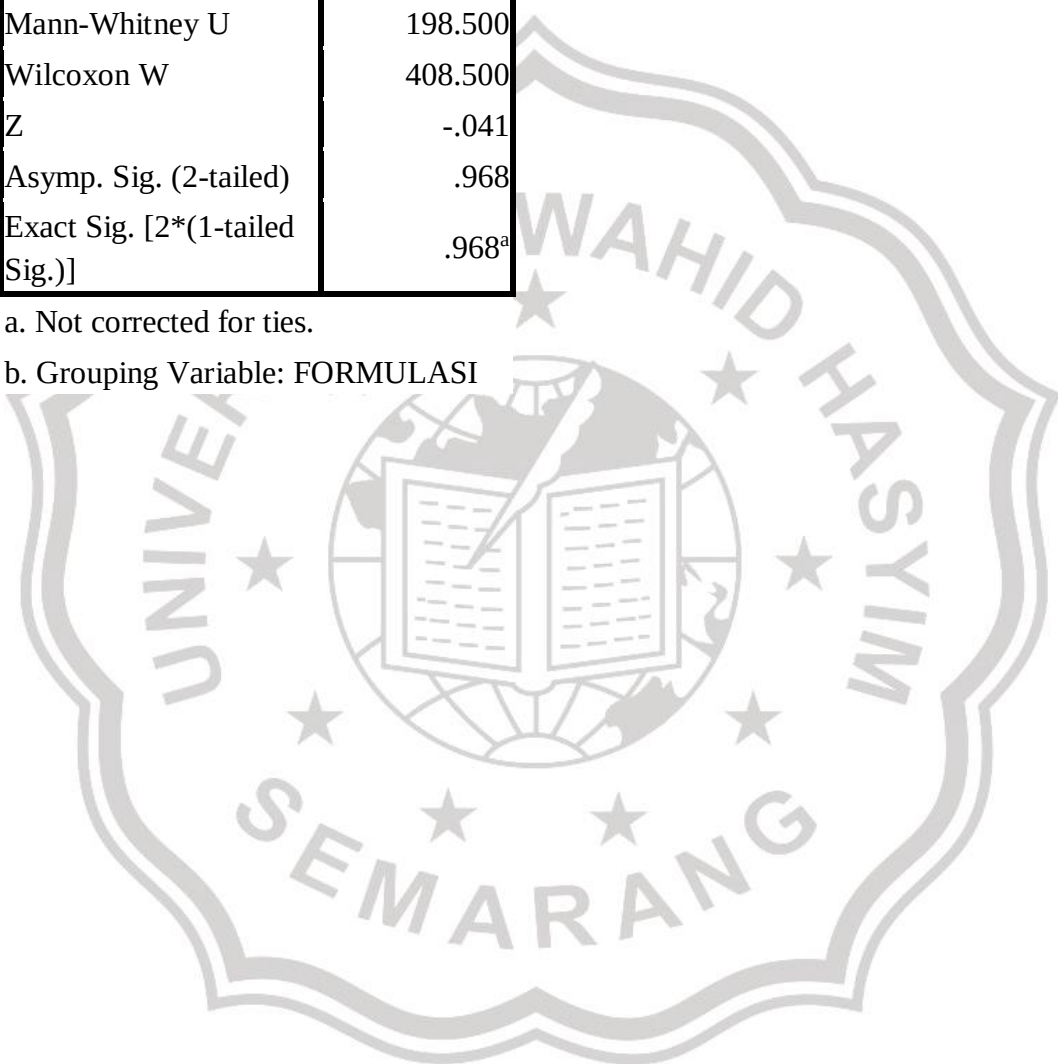
FIV dan FV

Test Statistics^b

	keseragaman bobot
Mann-Whitney U	198.500
Wilcoxon W	408.500
Z	-.041
Asymp. Sig. (2-tailed)	.968
Exact Sig. [2*(1-tailed Sig.)]	.968 ^a

a. Not corrected for ties.

b. Grouping Variable: FORMULASI



Lampiran 8. Hasil Pemeriksaan Kekerasan Tablet Hisap

Replikasi	Kekerasan (Kg)				
	F I	F II	F III	F IV	F V
1	6,5	8	7,7	7,9	10,9
2	6,3	7,7	6,1	6,9	10,5
3	5,9	7	5,9	8	9,8
4	5,7	7,9	6,6	7,7	9,4
5	5,7	7,4	6,6	6,9	9,1
$\bar{x}$	6,02	7,6	6,58	7,48	9,94
SD	0,36	0,40	0,69	0,54	0,75

Hasil Uji Statistik Kekerasan Tablet

ANOVA

Kekerasan	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	44.990	4	11.247	34.312	.000
Within Groups	6.556	20	.328		
Total	51.546	24			

Lampiran 8. Lanjutan...

Multiple Comparisons

Kekerasan
Tukey HSD

(I) kesera gaman bobot	(J) kesera gaman bobot	Mean Difference (I- J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
FI	FII	-1.5800*	.3621	.002	-2.664	-.496
	FIII	-.5600	.3621	.546	-1.644	.524
	FIV	-1.4600*	.3621	.005	-2.544	-.376
	FV	-3.9200*	.3621	.000	-5.004	-2.836
FII	FI	1.5800*	.3621	.002	.496	2.664
	FIII	1.0200	.3621	.071	-.064	2.104
	FIV	.1200	.3621	.997	-.964	1.204
	FV	-2.3400*	.3621	.000	-3.424	-1.256
FIII	FI	.5600	.3621	.546	-.524	1.644
	FII	-1.0200	.3621	.071	-2.104	.064
	FIV	-.9000	.3621	.134	-1.984	.184
	FV	-3.3600*	.3621	.000	-4.444	-2.276
FIV	FI	1.4600*	.3621	.005	.376	2.544
	FII	-.1200	.3621	.997	-1.204	.964
	FIII	.9000	.3621	.134	-.184	1.984
	FV	-2.4600*	.3621	.000	-3.544	-1.376
FV	FI	3.9200*	.3621	.000	2.836	5.004
	FII	2.3400*	.3621	.000	1.256	3.424
	FIII	3.3600*	.3621	.000	2.276	4.444
	FIV	2.4600*	.3621	.000	1.376	3.544

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

Lampiran 9. Hasil Pemeriksaan Kerapuhan Tablet Hisap

$$\text{Kerapuhan tablet} = \frac{W_o - W_a}{W_o} \times 100 \%$$

Replikasi	Kerapuhan (%)				
	F I	F II	F III	F IV	F V
1	0,01	0,05	0,14	0,03	0,10
2	0,04	0,45	0,32	0,12	0,13
3	0,01	0,03	0,02	0,16	0,05
$\bar{x}$	0,02	0,17	0,16	0,10	0,10
SD	0,01	0,23	0,15	0,06	0,04

Formula I

$$1. \text{ Kerapuhan tablet} = \frac{20,056 \text{ gram} - 20,053 \text{ gram}}{20,056 \text{ gram}} \times 100 \%$$

$$= 0,01 \%$$

$$2. \text{ Kerapuhan tablet} = \frac{20,134 \text{ gram} - 20,124 \text{ gram}}{20,134 \text{ gram}} \times 100 \%$$

$$= 0,04 \%$$

$$3. \text{ Kerapuhan tablet} = \frac{20,085 \text{ gram} - 20,081 \text{ gram}}{20,085 \text{ gram}} \times 100 \%$$

$$= 0,01 \%$$

Formula II

$$1. \text{ Kerapuhan tablet} = \frac{19,288 \text{ gram} - 19,278 \text{ gram}}{19,288 \text{ gram}} \times 100 \%$$

$$= 0,05 \%$$

$$2. \text{ Kerapuhan tablet} = \frac{20,323 \text{ gram} - 20,231 \text{ gram}}{20,323 \text{ gram}} \times 100 \%$$

$$= 0,45 \%$$

Lampiran 9. Lanjutan...

$$\begin{aligned} 3. \text{ Kerapuhan tablet} &= \frac{20,457 \text{ gram} - 20,450 \text{ gram}}{20,457 \text{ gram}} \times 100 \% \\ &= 0,03 \% \end{aligned}$$

Formula III

$$1. \text{ Kerapuhan tablet} = \frac{19,889 \text{ gram} - 19,861 \text{ gram}}{19,889 \text{ gram}} \times 100 \%$$

$$= 0,14 \%$$

$$2. \text{ Kerapuhan tablet} = \frac{19,711 \text{ gram} - 19,646 \text{ gram}}{19,711 \text{ gram}} \times 100 \%$$

$$= 0,32 \%$$

$$3. \text{ Kerapuhan tablet} = \frac{19,824 \text{ gram} - 19,819 \text{ gram}}{19,824 \text{ gram}} \times 100 \%$$

$$= 0,02 \%$$

Formula IV

$$1. \text{ Kerapuhan tablet} = \frac{19,777 \text{ gram} - 19,770 \text{ gram}}{19,777 \text{ gram}} \times 100 \%$$

$$= 0,03 \%$$

$$2. \text{ Kerapuhan tablet} = \frac{20,294 \text{ gram} - 20,268 \text{ gram}}{20,294 \text{ gram}} \times 100 \%$$

$$= 0,12\%$$

Lampiran 9. Lanjutan...

$$\begin{aligned} 3. \text{ Kerapuhan tablet} &= \frac{20,385 \text{ gram} - 20,352 \text{ gram}}{20,385 \text{ gram}} \times 100 \% \\ &= 0,16 \% \end{aligned}$$

Formula V

$$\begin{aligned} 1. \text{ Kerapuhan tablet} &= \frac{18,574 \text{ gram} - 18,554 \text{ gram}}{18,574 \text{ gram}} \times 100 \% \\ &= 0,10 \% \end{aligned}$$

$$\begin{aligned} 2. \text{ Kerapuhan tablet} &= \frac{18,572 \text{ gram} - 18,546 \text{ gram}}{18,572 \text{ gram}} \times 100 \% \\ &= 0,13\% \end{aligned}$$

$$\begin{aligned} 3. \text{ Kerapuhan tablet} &= \frac{18,569 \text{ gram} - 18,558 \text{ gram}}{18,569 \text{ gram}} \times 100 \% \\ &= 0,05\% \end{aligned}$$

Hasil Uji Statistik Kerapuhan Tablet

Kruskal Wallis

Kerapuhan

Test Statistics^{ab}

	kerapuhan tab
Chi-Square	4.767
Df	4
Asymp. Sig.	.312

a. Kruskal Wallis Test

b. Grouping Variable:
formulasi

Lampiran 9. Lanjutan...

FI VS FII

Test Statistics^b

	kerapuhan tab
Mann-Whitney U	1.000
Wilcoxon W	7.000
Z	-1.528
Asymp. Sig. (2-tailed)	.127
Exact Sig. [2*(1-tailed Sig.)]	.200 ^a

a. Not corrected for ties.

b. Grouping Variable: formulasi

FI VS FIII

Test Statistics^b

	kerapuhan tab
Mann-Whitney U	1.000
Wilcoxon W	7.000
Z	-1.528
Asymp. Sig. (2-tailed)	.127
Exact Sig. [2*(1-tailed Sig.)]	.200 ^a

a. Not corrected for ties.

b. Grouping Variable: formulasi

Lampiran 9. Lanjutan...

FI VS FIV

Test Statistics^b

	kerapuhan tab
Mann-Whitney U	1.000
Wilcoxon W	7.000
Z	-1.528
Asymp. Sig. (2-tailed)	.127
Exact Sig. [2*(1-tailed Sig.)]	.200 ^a

a. Not corrected for ties.

b. Grouping Variable: formulasi

FI VS FV

Test Statistics^b

	kerapuhan tab
Mann-Whitney U	.000
Wilcoxon W	6.000
Z	-1.964
Asymp. Sig. (2-tailed)	.050
Exact Sig. [2*(1-tailed Sig.)]	.100 ^a

a. Not corrected for ties.

b. Grouping Variable: formulasi

Lampiran 9. Lanjutan...

FII VS FIII

Test Statistics^b

	kerapuhan tab
Mann-Whitney U	4.000
Wilcoxon W	10.000
Z	-.218
Asymp. Sig. (2-tailed)	.827
Exact Sig. [2*(1-tailed Sig.)]	1.000 ^a

a. Not corrected for ties.

b. Grouping Variable: formulasi

FII VS FIV

Test Statistics^b

	kerapuhan tab
Mann-Whitney U	4.000
Wilcoxon W	10.000
Z	-.218
Asymp. Sig. (2-tailed)	.827
Exact Sig. [2*(1-tailed Sig.)]	1.000 ^a

a. Not corrected for ties.

b. Grouping Variable: formulasi

Lampiran 9. Lanjutan...

FII VS FV

Test Statistics^b

	kerapuhan tab
Mann-Whitney U	3.000
Wilcoxon W	9.000
Z	-.655
Asymp. Sig. (2-tailed)	.513
Exact Sig. [2*(1-tailed Sig.)]	.700 ^a

a. Not corrected for ties.

b. Grouping Variable: formulasi

FIII VS FIV

Test Statistics^b

	kerapuhan tab
Mann-Whitney U	4.000
Wilcoxon W	10.000
Z	-.218
Asymp. Sig. (2-tailed)	.827
Exact Sig. [2*(1-tailed Sig.)]	1.000 ^a

a. Not corrected for ties.

b. Grouping Variable: formulasi

Lampiran 9. Lanjutan...

FIII VS FV

Test Statistics^b

	kerapuhan tab
Mann-Whitney U	3.000
Wilcoxon W	9.000
Z	-.655
Asymp. Sig. (2-tailed)	.513
Exact Sig. [2*(1-tailed Sig.)]	.700 ^a

a. Not corrected for ties.

b. Grouping Variable: formulasi

FIV VS FV

Test Statistics^b

	kerapuhan tab
Mann-Whitney U	4.000
Wilcoxon W	10,000
Z	-,218
Asymp. Sig. (2-tailed)	,827
Exact Sig. [2*(1-tailed Sig.)]	1,000 ^a

a, Not corrected for ties,

b, Grouping Variable: formulasi

Lampiran 10. Hasil Pemeriksaan Waktu Melarut Tablet Hisap

Responden	Waktu Melarut (menit)				
	F I	F II	F III	F IV	F V
1	6	8	9	8	13
2	10	9	8	7	10
3	12	7	8	11	8
4	11	10	7	9	7
5	8	9	10	10	8
6	7	12	9	8	9
7	8	8	9	9	8
8	11	9	7	6	8
9	11	9	9	10	8
10	10	10	9	8	6
11	10	7	8	7	7
12	9	10	8	9	7
13	10	8	7	9	6
14	12	9	11	7	8
15	7	8	8	7	9
16	7	8	8	7	9
17	8	7	6	7	7
18	9	10	9	10	8
19	7	10	9	9	9
20	9	9	8	7	9
$\bar{x}$	9,1	8,85	8,35	8,25	8,2
SD	1,80	1,26	1,13	1,37	1,54

Lampiran 10. Lanjutan...

Data Statistik Waktu Melarut

Kruskal Wallis

Waktu Melarut'

Test Statistics^{ab}

	waktu melarut tab
Chi-Square	5.838
Df	4
Asymp. Sig.	.212

a. Kruskal Wallis Test

b. Grouping Variable:
formulasi

FI VS FII

Test Statistics^b

	waktu melarut tab
Mann-Whitney U	182.500
Wilcoxon W	392.500
Z	-.482
Asymp. Sig. (2-tailed)	.630
Exact Sig. [2*(1-tailed Sig.)]	.640 ^a

a. Not corrected for ties.

b. Grouping Variable: formulasi

Lampiran 10. Lanjutan...

FI VS FIII

Test Statistics^b

	waktu melarut tab
Mann-Whitney U	151.000
Wilcoxon W	361.000
Z	-1.352
Asymp. Sig. (2-tailed)	.176
Exact Sig. [2*(1-tailed Sig.)]	.192 ^a

a. Not corrected for ties.

b. Grouping Variable: formulasi

FI VS FIV

Test Statistics^b

	waktu melarut tab
Mann-Whitney U	144.000
Wilcoxon W	354.000
Z	-1.545
Asymp. Sig. (2-tailed)	.122
Exact Sig. [2*(1-tailed Sig.)]	.134 ^a

a. Not corrected for ties.

b. Grouping Variable: formulasi

Lampiran 10. Lanjutan...

FI VS FV

Test Statistics^b

	waktu melarut tab
Mann-Whitney U	139.000
Wilcoxon W	349.000
Z	-1.679
Asymp. Sig. (2-tailed)	.093
Exact Sig. [2*(1-tailed Sig.)]	.102 ^a

a. Not corrected for ties.

b. Grouping Variable: formulasi

FII VS FIII

Test Statistics^b

	waktu melarut tab
Mann-Whitney U	155.500
Wilcoxon W	365.500
Z	-1.247
Asymp. Sig. (2-tailed)	.213
Exact Sig. [2*(1-tailed Sig.)]	.231 ^a

a. Not corrected for ties.

b. Grouping Variable: formulasi

Lampiran 10. Lanjutan...

FII VS FIV

Test Statistics^b

	waktu melarut tab
Mann-Whitney U	150.500
Wilcoxon W	360.500
Z	-1.375
Asymp. Sig. (2-tailed)	.169
Exact Sig. [2*(1-tailed Sig.)]	.183 ^a

a. Not corrected for ties.

b. Grouping Variable: formulasi

FII VS FV

Test Statistics^b

	waktu melarut tab
Mann-Whitney U	136.000
Wilcoxon W	346.000
Z	-1.782
Asymp. Sig. (2-tailed)	.075
Exact Sig. [2*(1-tailed Sig.)]	.086 ^a

a. Not corrected for ties.

b. Grouping Variable: formulasi

Lampiran 10. Lanjutan...

FIII VS FIV

Test Statistics^b

	waktu melarut tab
Mann-Whitney U	188.000
Wilcoxon W	398.000
Z	-.335
Asymp. Sig. (2-tailed)	.738
Exact Sig. [2*(1-tailed Sig.)]	.758 ^a

a. Not corrected for ties.

b. Grouping Variable: formulasi

FIII VS FV

Test Statistics^b

	waktu melarut tab
Mann-Whitney U	174.500
Wilcoxon W	384.500
Z	-.717
Asymp. Sig. (2-tailed)	.473
Exact Sig. [2*(1-tailed Sig.)]	.495 ^a

a. Not corrected for ties.

b. Grouping Variable: formulasi

Lampiran 10. Lanjutan...

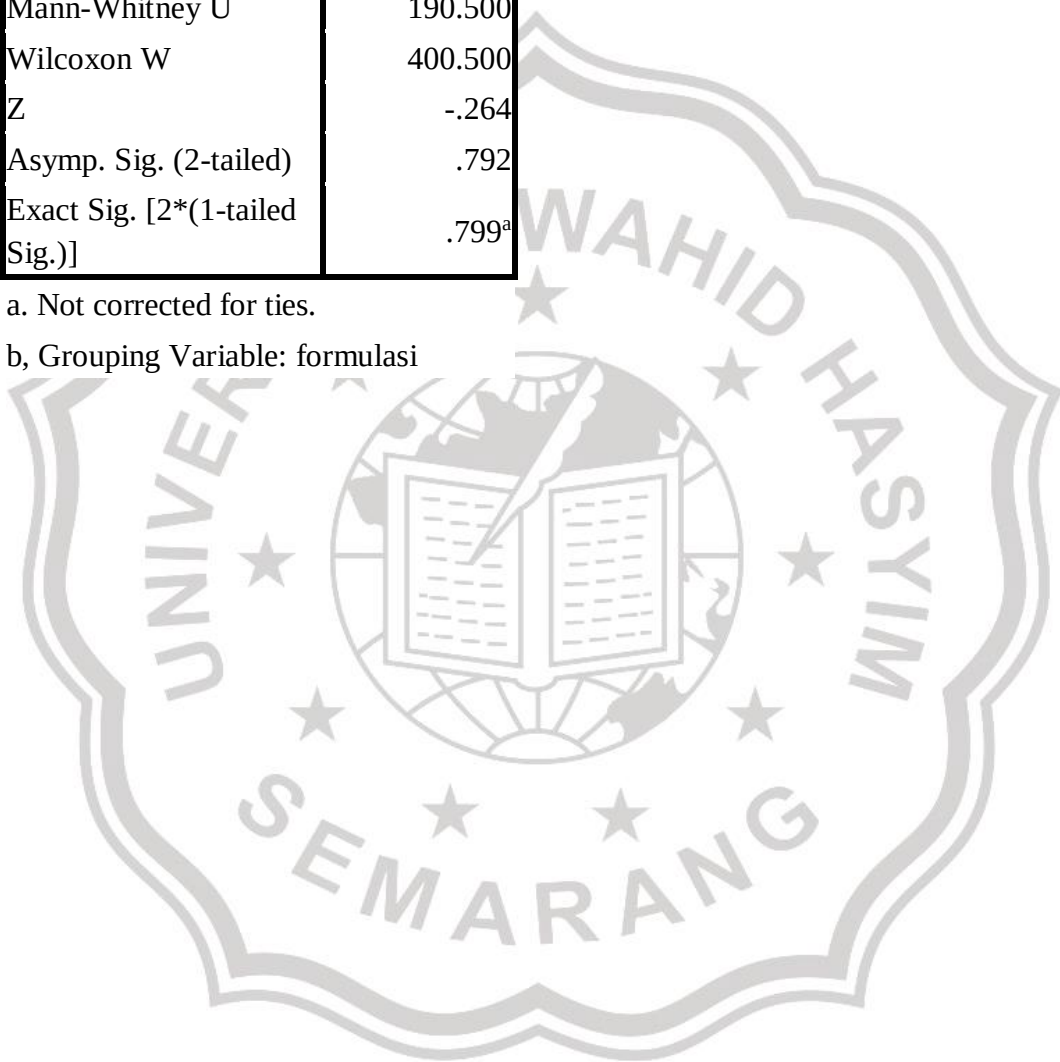
FIV VS FV

Test Statistics^b

	waktu melarut tab
Mann-Whitney U	190.500
Wilcoxon W	400.500
Z	-.264
Asymp. Sig. (2-tailed)	.792
Exact Sig. [2*(1-tailed Sig.)]	.799 ^a

a. Not corrected for ties.

b, Grouping Variable: formulasi



Lampiran 11. Angket Tanggapan Responden

ANGKET TANGGAPAN RASA

PETUNJUK PENGISIAN ANGKET

Berilah tanda cek list (✓) pada kolom angket sesuai dengan rasa dari tablet hisap ekstrak etanol daun Pare

PERTANYAAN

1. Bagaimana pendapat anda mengenai rasa dari tablet hisap ekstrak etanol daun Pare untuk produk I, II, III, IV, V Diskripsikan pendapat anda !

Tingkat kemanisan	F I	F II	F III	F IV	F V
Manis					
Kurang Manis					
Pahit					
Sangat Pahit					

Catatan :

2. Berdasarkan rasa dari kelima produk tablet hisap ekstrak etanol daun Pare tersebut, produk mana yang dapat diterima? (Pilih salah satu)

	I	II	III	IV	V
Formula yang dapat diterima					

IDENTITAS RESPONDEN

Nama :

Pekerjaan :

Umur :

Alamat :

Lampiran 12. Perhitungan % Uji Tanggap Rasa

Formula I

$$= \frac{85\%}{100\%} \times 20 \text{ Responden} = 17 \text{ Responden} \quad \frac{17}{20} \times 100\% = 85\%$$

$$= \frac{15\%}{100\%} \times 20 \text{ Responden} = 3 \text{ Responden} \quad \frac{3}{20} \times 100\% = 15\%$$

Formula II

$$= \frac{80\%}{100\%} \times 20 \text{ Responden} = 16 \text{ Responden} \quad \frac{16}{20} \times 100\% = 80\%$$

$$= \frac{20\%}{100\%} \times 20 \text{ Responden} = 4 \text{ Responden} \quad \frac{4}{20} \times 100\% = 20\%$$

Formula III

$$= \frac{75\%}{100\%} \times 20 \text{ Responden} = 15 \text{ Responden} \quad \frac{15}{20} \times 100\% = 75\%$$

$$= \frac{15\%}{100\%} \times 20 \text{ Responden} = 3 \text{ Responden} \quad \frac{3}{20} \times 100\% = 15\%$$

$$= \frac{10\%}{100\%} \times 20 \text{ Responden} = 2 \text{ Responden} \quad \frac{2}{20} \times 100\% = 10\%$$

Formula IV

$$= \frac{90\%}{100\%} \times 20 \text{ Responden} = 18 \text{ Responden} \quad \frac{18}{20} \times 100\% = 90\%$$

$$= \frac{10\%}{100\%} \times 20 \text{ Responden} = 2 \text{ Responden} \quad \frac{2}{20} \times 100\% = 10\%$$

Formula V

$$= \frac{95\%}{100\%} \times 20 \text{ Responden} = 19 \text{ Responden} \quad \frac{19}{20} \times 100\% = 95\%$$

$$= \frac{5\%}{100\%} \times 20 \text{ Responden} = 1 \text{ Responden} \quad \frac{1}{20} \times 100\% = 5\%$$