LAMPIRAN A

HASIL UJI STANDARISASI

Hasil Perhitungan Penetapan Susut Pengeringan Simplisia

Replikasi	Hasil Susut Pengeringan
1	9,6
2	9,6
3	9,6
Rata- rata	9,6

Hasil Perhitungan Penetapan Susut Pengeringan Ekstrak kering

Replikasi	Hasil Susut Pengeringan
1	8,5
2	7,7
Rata- rata	8,1

Hasil Perhitungan Penetapan Kadar Abu Total Simplisia

No	W (krus kosong) (gram)	W (Bahan) (gram)	W (krus+ abu) (gram)	% Kadar abu	Rata-rata (%)
1	21,0625	2,0073	21,2282	8,2548	
2	21,1545	2,0047	21,3224	8,3753	8,2791
3	21,0875	2,0092	21,2524	8,2072	

1. Kadar abu $= \frac{\text{(berat krus + serbuk) - berat krus kosong}}{\text{Berat ekstrak}} \times 100\%$

$= \frac{21,2282 - 21,0625}{2,0073} \times 100\ \%$

$= 8,2548\ \%$

2. Kadar abu $= \frac{\text{(berat krus + serbuk) - berat krus kosong}}{\text{Berat ekstrak}} \times 100\%$

$= \frac{21,3224 - 21,1545}{2,0047} \times 100\ \%$

$= 8,3753\ \%$

3. Kadar abu $= \frac{\text{(berat krus + serbuk) - berat krus kosong}}{\text{Berat ekstrak}} \times 100\%$

$= \frac{21,2524 - 21,0875}{2.0092} \times 100\ \%$

$= 8,2072\ \%$

Hasil Perhitungan Penetapan Kadar Abu Total Ekstrak Kering

No	W (krus kosong) (gram)	W (Bahan) (gram)	W (krus+ ekstrak) (gram)	(%) Kadar abu	Rata-rata (%)
1	21,1045	2,0007	21,3217	10,8562	
2	21,1721	2,0014	21,4024	11,5150	10,8493
3	21,0283	2,0026	21,2317	10,1767	

1. Kadar abu $= \frac{\text{(berat krus + ekstrak) - berat krus kosong}}{\text{Berat ekstrak}} \times 100\%$

$= \frac{21,3217 - 21,1045}{2,0007} \times 100\ \%$

$= 10,8562\%$

2. Kadar abu $= \frac{\text{(berat krus + ekstrak) - berat krus kosong}}{\text{Berat ekstrak}} \times 100\%$

$= \frac{21,4024 - 21,1721}{2,0014} \times 100\%$

$= 11,5150\ \%$

3. Kadar abu $= \frac{\text{(berat krus + ekstrak) - berat krus kosong}}{\text{Berat ekstrak}} \times 100\%$

$= \frac{21,2317 - 21,0283}{2,0026} \times 100\%$

$= 10,1767\ \%$

Hasil Perhitungan Kadar Sari Larut Etanol Simplisia

No	Berat cawan + serbuk setelah di uapkan (gram)	Berat cawan kosong (gram)	Berat serbuk (gram)	Kadar sari larut etanol (%)	Rata-rata (%)
1	112,1376	111,7447	5,0020	7,854	
2	100,5841	100,1658	5,0015	8,363	7,9716
3	101,9540	101,5690	5,0014	7,698	

1. Kadar sari larut etanol

$$= \frac{\text{(berat cawan + serbuk) – berat cawan kosong}}{\text{Berat serbuk}} \times 100\ \%$$

$$= \frac{112,1376 - 111,7447}{5,0020} \times 100\ \%$$

$$= 7,854\ \%$$

2. Kadar sari larut etanol

$$= \frac{\text{(berat cawan + serbuk) – berat cawan kosong}}{\text{Berat serbuk}} \times 100\ \%$$

$$= \frac{100,5841 - 100,1658}{5,0015} \times 100\ \%$$

$$= 8,363\ \%$$

3. Kadar sari larut etanol

$$= \frac{\text{(berat cawan + serbuk) – berat cawan kosong}}{\text{Berat serbuk}} \times 100\ \%$$

$$= \frac{101{,}9540 - 101{,}5690}{5{,}0014} \times 100\ \%$$

$$= 7{,}698\ \%$$

Hasil Perhitungan Kadar Sari Larut Air Simplisia

No	Berat cawan + serbuk setelah di uapkan (gram)	Berat cawan kosong (gram)	Berat serbuk (gram)	Kadar sari larut etanol (%)	Rata-rata (%)
1	61,8367	61,2286	5,0027	12,1554	
2	63,1146	62,5570	5,0019	11,1477	11,6441
3	61,7951	61,2134	5,0020	11,6293	

1. Kadar sari larut air

$$= \frac{\text{(berat cawan + serbuk) – berat cawan kosong}}{\text{Berat serbuk}} \times 100\ \%$$

$$= \frac{61{,}8367 - 61{,}2286}{5{,}0027} \times 100\ \%$$

$$= 12{,}1554\ \%$$

2. Kadar sari larut air

$$= \frac{\text{(berat cawan + serbuk) – berat cawan kosong}}{\text{Berat serbuk}} \times 100\ \%$$

$$= \frac{63{,}1146 - 62{,}5570}{5{,}0019} \times 100\ \%$$

$$= 11{,}1417\ \%$$

3. Kadar sari larut air

$$= \frac{\text{(berat cawan + serbuk) – berat cawan kosong}}{\text{Berat serbuk}} \times 100\ \%$$

$$= \frac{61{,}7951 - 61{,}2134}{5{,}0020} \times 100\ \%$$

$$= 11{,}6293\ \%$$

Hasil Perhitungan Kadar Sari Larut Etanol Ekstrak Kering

No	Berat cawan + ekstrak setelah di uapkan (gram)	Berat cawan kosong (gram)	Berat serbuk (gram)	Kadar sari larut etanol (%)	Rata-rata (%)
1	112,6341	112,2161	5,0002	8,3596	
2	101,2323	100,7908	5,0010	8,8462	8,7887
3	101,2690	100,8109	5,0009	9,1603	

1. Kadar sari larut etanol

$$= \frac{\text{(berat cawan + ekstrak) – berat cawan kosong}}{\text{Berat serbuk}} \times 100\ \%$$

$$= \frac{112{,}6341 - 112{,}2161}{5{,}0002} \times 100\ \%$$

$$= 8{,}3596\ \%$$

2. Kadar sari larut etanol

$$= \frac{\text{(berat cawan + ekstrak) – berat cawan kosong}}{\text{Berat serbuk}} \times 100\ \%$$

$$= \frac{101{,}2323 - 100{,}7908}{5{,}0010} \times 100\ \%$$

$$= 8{,}8462\ \%$$

3. Kadar sari larut etanol

$$= \frac{\text{(berat cawan + ekstrak) – berat cawan kosong}}{\text{Berat serbuk}} \times 100\ \%$$

$$= \frac{101{,}2690 - 100{,}8109}{5{,}0009} \times 100\ \%$$

$$= 9{,}1603\ \%$$

Hasil Perhitungan Kadar Sari Larut Air Ekstrak Kering

No	Berat cawan + ekstrak setelah di uapkan (gram)	Berat cawan kosong (gram)	Berat serbuk (gram)	Kadar sari larut etanol (%)	Rata-rata (%)
1	111,9971	111,4521	5,0015	10,8967	
2	111,8018	111,2019	5,0008	11,9960	11,4178
3	101,3132	100,7551	5,0005	11,3608	

1. Kadar sari larut air

$$= \frac{\text{(berat cawan + ekstrak) – berat cawan kosong}}{\text{Berat serbuk}} \times 100\ \%$$

$$= \frac{111{,}9971 - 111{,}4521}{5{,}0015} \times 100\ \%$$

$$= 10{,}8967\ \%$$

2. Kadar sari larut air

$$= \frac{\text{(berat cawan + ekstrak) – berat cawan kosong}}{\text{Berat serbuk}} \times 100\ \%$$

$$= \frac{111{,}8018 - 111{,}2019}{5{,}0008} \times 100\ \%$$

$$= 11{,}9960\ \%$$

3. Kadar sari larut air

$$= \frac{(\text{berat cawan + ekstrak}) - \text{berat cawan kosong}}{\text{Berat serbuk}} \times 100\ \%$$

$$= \frac{101{,}3132 - 100{,}7551}{5{,}0005} \times 100\ \%$$

$$= 11{,}3608\ \%$$

Hasil Perhitungan Rendemen Ekstrak

$$\text{Randemen ekstrak} = \frac{\text{berat ekstrak kental}}{\text{berat serbuk}} \times 100\%$$

$$= \frac{594{,}5637}{5000} \times 100\ \%$$

$$= 11{,}89\ \%$$

Hasil Perhitungan Nilai Rf pada KLT Daun Pare dengan Pelarut Benzen : Metanol (8 : 2) dengan Penampak noda Lieberman Burchard.

No	Pengamatan UV 366	Warna Noda	Nilai Rf
1	Karantin	Ungu	0,48
2	Simplisia	Ungu	0,48
3	Ekstrak kental	Ungu	0,48
4	Ekstrak kering	Ungu	0,48
5	Formula I	Ungu	0,48
6	Formula II	Ungu	0,48
7	Formula III	Ungu	0,48
8	Formula IV	Ungu	0,48
9	Formula V	Ungu	0,48
10	Formula VI	Ungu	0,48
11	Formula VII	Ungu	0,48

Contoh perhitungan : Rf = $\frac{jarak\ yang\ ditempuh\ oleh\ zat}{jarak\ yang\ ditempuh\ oleh\ analit}$

1. Rf = $\frac{3,85}{8}$ = 0,4812

2. Rf = $\frac{3,85}{8}$ = 0,4812

3. Rf = $\frac{3,85}{8}$ = 0,4812

4. Rf = $\frac{3,85}{8}$ = 0,4812

5. Rf = $\frac{3,85}{8}$ = 0,4812

6. Rf = $\frac{3,85}{8}$ = 0,4812

7. Rf = $\frac{3,85}{8}$ = 0,4812

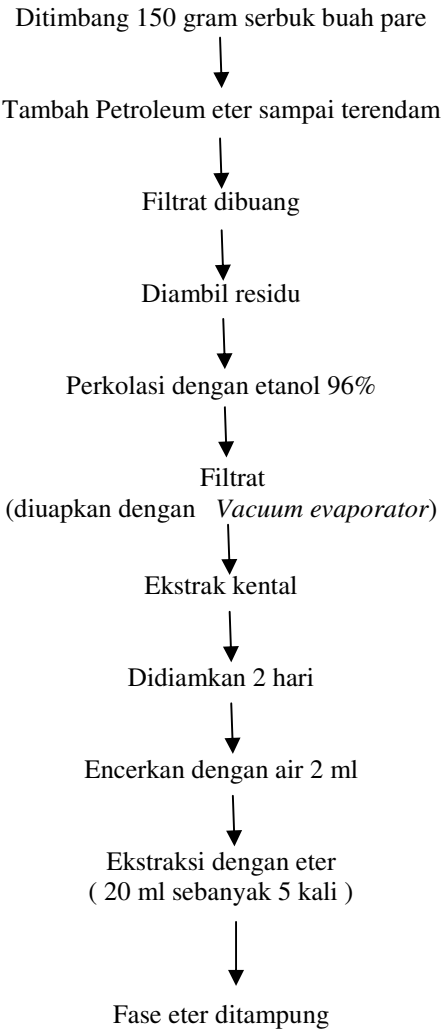
8. Rf = $\frac{3,85}{8}$ = 0,4812

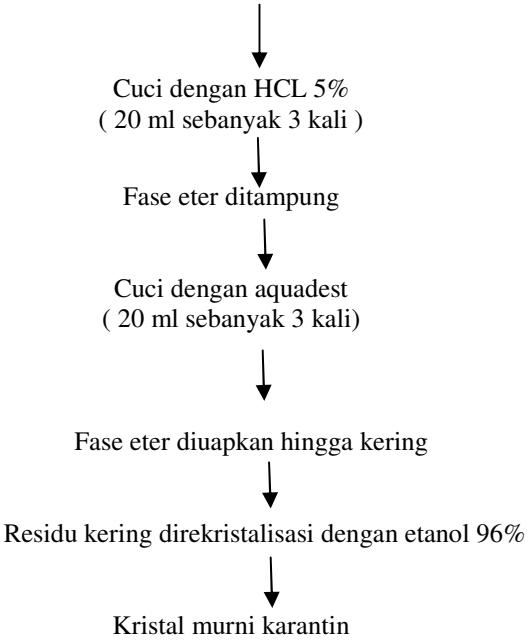
9. Rf = $\frac{3,85}{8}$ = 0,4812

10. Rf = $\frac{3,85}{8}$ = 0,4812

11. Rf = $\frac{3,85}{8}$ = 0,4812

ISOLASI SENYAWA KARANTIN DARI EKSTRAK BUAH PARE




Cuci dengan HCL 5%
(20 ml sebanyak 3 kali)
Fase eter ditampung
Cuci dengan aquadest
(20 ml sebanyak 3 kali)
Fase eter diuapkan hingga kering
Residu kering direkristalisasi dengan etanol 96%
Kristal murni karantin

LAMPIRAN B

HASIL UJI KESERAGAMAN BOBOT TABLET EKSTRAK DAUN PARE

Hasil Uji Keseragaman Bobot Tablet Formula 1

No	Replikasi (1) Bobot Tablet (mg)	Replikasi (2) Bobot Tablet (mg)	Replikasi (3) Bobot tablet (mg)
1	651,1	648,1	650,3
2	650,7	652,9	642,2
3	652,1	652,1	650,2
4	652,3	650,3	653,1
5	649,5	652,5	655,4
6	651,5	647,8	643,5
7	648,3	649,1	648,7
8	649,8	651,7	646,5
9	650,5	648,3	653,8
10	650,6	651,8	649,6
Rata-rata	650,62	650,46	649,61
SD	1,22	1,98	4,40

Hasil Uji Keseragaman Bobot Tablet Formula 2

No	Replikasi (1) Bobot Tablet (mg)	Replikasi (2) Bobot Tablet (mg)	Replikasi (3) Bobot tablet (mg)
1	653,3	650,8	652,5
2	652,7	649,7	652,7
3	643,1	643,8	649,8
4	650,7	652,5	650,3
5	650,7	652,1	651,3
6	653,6	653,5	651,2
7	651,3	649,1	645,8
8	647,7	650,1	649,7
9	649,8	648,8	651,5
10	650,2	648,5	651,4
Rata-rata	650,31	649,89	650,62
SD	3,08	2,71	1,97

Hasil Uji Keseragaman Bobot Tablet Formula 3

No	Replikasi (1) Bobot Tablet (mg)	Replikasi (2) Bobot Tablet (mg)	Replikasi (3) Bobot tablet(mg)
1	651,3	647,0	651,8
2	650,3	649,8	651,5
3	647,1	650,0	647,3
4	652,5	650,9	650,3
5	650,2	649,1	651,5
6	650,2	649,3	649,9
7	653,5	650,3	652,1
8	648,8	649,1	651,8
9	650,1	651,9	647,3
10	650,3	650,8	648,1
Rata-rata	650,43	649,82	650,16
SD	1,78	1,33	1,92

Hasil Uji Keseragaman Bobot Tablet Formula 4

No	Replikasi (1) Bobot Tablet (mg)	Replikasi (2) Bobot Tablet (mg)	Replikasi (3) Bobot tablet (mg)
1	651,5	648,8	649,0
2	650,0	650,0	647,1
3	650,0	650,3	649,1
4	648,9	651,1	652,0
5	651,3	651,0	650,9
6	650,3	647,2	651,3
7	646,8	651,1	650,2
8	648,1	650,9	648,8
9	650,9	649,9	650,1
10	650,9	649,7	648,9
Rata-rata	650,07	649,75	649,74
SD	1,14	1,52	1,44

Hasil Uji Keseragaman Bobot Tablet Formula 5

No	Replikasi (1)	Replikasi (2)	Replikasi (3)
	Bobot Tablet (mg)	Bobot Tablet (mg)	Bobot tablet (mg)
1	650,0	653,1	649,8
2	650,0	650,0	647,1
3	651,8	649,9	650,0
4	650,0	649,8	650,1
5	652,1	650,0	649,9
6	648,1	650,1	649,8
7	650,8	651,8	651,5
8	650,0	648,1	652,2
9	650,3	647,2	651,0
10	650,1	650,8	650,9
Rata-rata	650,51	650,09	650,23
SD	1,11	1,66	1,37

Hasil Uji Keseragaman Bobot Tablet Formula 6

No	Replikasi (1) Bobot Tablet (mg)	Replikasi (2) Bobot Tablet (mg)	Replikasi (3) Bobot tablet (mg)
1	649,9	650,8	650,3
2	650,1	652,1	652,2
3	650,8	651,8	651,8
4	648,9	650,8	652,8
5	651,8	647,2	648,8
6	650,1	649,1	648,1
7	650,5	650,2	650,1
8	650,8	650.5	652,8
9	651,2	649,9	652,7
10	650,7	650,1	648,2
Rata-rata	650.48	650.25	650.78
SD	0,79	1,38	1,92

Hasil Uji Keseragaman Bobot Tablet Formula 7

No	Replikasi (1) Bobot Tablet (mg)	Replikasi (2) Bobot Tablet (mg)	Replikasi (3) Bobot tablet (mg)
1	653,7	651,1	651,1
2	650,8	652,1	649,8
3	652,2	649,8	650,8
4	652,2	650,3	653,3
5	653,1	650,1	653,0
6	647,8	652,8	650,3
7	650,2	652,5	651,8
8	650,8	653,3	649,9
9	652,1	647,8	650,1
10	651,8	650,1	653,3
Rata-rata	651,47	651,0	651,64
SD	1,67	1,70	1,48

LAMPIRAN C

DETERMINASI DAUN PARE

DINAS KESEHATAN PROPINSI JAWA TIMUR
UPT MATERIA MEDICA
Jalan Lahor No.87 Telp. (0341) 593396 Batu (65313)
KOTA BATU

Nomor : 074 / 02/ 101.8 / 2011
Sifat : Biasa
Perihal : **Determinasi Tanaman Pare**

Memenuhi permohonan saudara :
Nama : FRANSISKUS APRIYADI
NIM : 2443007112
Fakultas : Fakultas Farmasi Universitas Widya Mandala Surabaya

1. Perihal determinasi tanaman Pare
   - Kingdom : Plantae (Tumbuhan)
   - Subkingdom : Tracheobionta (Tumbuhan berpembuluh)
   - Super Divisi : Spermatophyta (Menghasilkan biji)
   - Divisi : Magnoliophyta (Tumbuhan berbunga)
   - Kelas : Dicotyledonae
   - Bangsa : Cucurbitales
   - Suku : Cucurbitaceae
   - Marga : Momordia
   - Jenis : *Momordica charantia L*
   - Sinonim : *M.balsamina*, Blanco. = *M.balsamina*, Descourt. = *M.cylindrica*, Blanco. = *M.jagorana* C.Koch. = *M.operculata*, Vell. = *Cucumis africanus*, Lindl. Paria, pare, pare pahit, pepareh (Jawa). Pricu, peria, foria,; Pepare, kambeh, paria (Sumatera). Paya, paria, truwuk, ; Paita, paliak, pariak, pania, pepule (Nusa tenggara). Poya, ; Pudu, pentu, paria belenggede, palia (Sulawesi). Papariane,; Pariane, papari, kakariano, taparipong, papariano, poparc, pepare.
   - Kunci determinasi : 1b- 2b - 3b - 4b - 6 b - 7b - 9b - 10 b- 11b - 12 b - 13 b - 14b - 15a - 109a - 110b – 111b - 112 b- 117 b- 1 a-2 b -3b-3.
2. Nama Simplisia : Momordicae Folium / daun pare
3. Kandungan : Daun: Momordisin, momordin, karantin, asam trikosanik, resin, asam resinat, saponin, vitamin A dan C serta minyak lemak terdiri dari asam oleat, asam linoleat, asam stearat dan L.oleostearat. Buah: Karantin, hydroxytryptamine, vitamin A,B dan C. Biji: Momordisin
4. Penggunaan : Penelitian
5. Daftar Pustaka :
   - Anonim, http/www.ipteknet.com /Pare , Diakses tanggal 25 Oktober 2010
   - Syamsuhidayat, Sri sugati, Hutapea, Johny Ria. ***Inventaris Tanaman Obat Indonesia*** Departemen Kesehatan Republik Indonesia : Badan Penelitian Dan Pengembangan Kesehatan.
   - Steenis,CGGJ Van Dr , ***FLORA***, 2008, Pradnya Paramita , Jakarta

Demikian determinasi ini kami buat untuk dipergunakan sebagaimana mestinya.

Batu, 5 Januari 2011
An. Kepala UPT Materia Medica Batu
Ka Sub Bag TU

Unik Purwaningtyas, SKM
NIP. 19640424 198702 2 002

LAMPIRAN D
SERTIFIKAT ANALISIS BAHAN

Magnesium stearat

Magnesium stearat:

SUN PLAN DEVELOPMENT LTD.

CERTIFICATE OF ANALYSIS

TO: PT BRATACO JL. KELENTENG NO. 5
BANDUNG QQ PT BRATACO JL. MANGGA
BESAR V/5 JAKARTA, INDONESIA
NPWP.01.130.689.1-032.001

RE: 48 MT TALC POWDER HAICHEN SHIPPED PER S/S PHILANDAO V.2352 FROM BAYUQUAN
CHINA SEAPORT TO TG.PRIOK PORT, JAKARTA, INDONESIA ON ABOUT 13 OCT 2020
DRAWN UNDER IRREVOCABLE DC NO 03/03U/06-15 DD 19/SEPT/03 OF BANK NISP (PT BANK NISP INTERNASIONAL)
ADDRESS : NISPIDJA)

COMMODITY : TALC POWDER HAICHEN
QUANTITY : 48 MT

SiO2 :	60.2%
MgO :	30.8%
WHITENESS :	92.8%
CaO :	0.4%
Fe2O3 :	0.29%
Al2O3 :	0.3%
LOI :	6.0%
FINENESS :	98.5% PASSING THROUGH 325 MESH
PH :	7-9
MOISTURE :	0.36%
ASBENTOS :	FREE

BRATACO
IMPORTER
MANUFACTURER
DISTRIBUTOR

Avicel PH 102

ASAHI KASEI CHEMICALS CORPORATION

1-105 Kanda Jinbocho, Chiyoda-ku, TOKYO 101-8101, JAPAN
TEL +81-(0)3-3296-3361 FAX +81-(0)3-3296-3467
Manufacturing site: 304, Mizushiri-machi, Nobeoka-city, Miyazaki 882-0015, Japan

Date: 21-JUN-2010
Issued by manufacturer

1699/ ロロ/ VII 10 .
1670 / ロロ / VII 10

YOUR NO.: B7ME-10-5298-0060

CERTIFICATE OF ANALYSIS

Compendial name: Microcrystalline Cellulose, NF, Ph. Eur., JP

Trade name : CEOLUS®

Grade : PH-102 **Lot No. 2045 (230bags)**

Manufacturing Date: 26-APR-2010
Re-evaluation Date: 26-APR-2013

Organic Solvent: not used in our process

Compendial Standards	Specifications	Lot Analysis
Description	Passes	Passes
Identification	Passes	Passes
Degree of polymerization	100 - 300	Passes
Loss on drying (%)	2.0 - 5.0	3.2
Water-soluble substances (mg)	NMT 12.5	5.9
Ether-soluble substances (mg)	NMT 5.0	0.5
Conductivity (μ S/cm)	NMT 75	22
Heavy metals (ppm)	NMT 10	NMT 10
Solubility	Passes	Passes
Residue on ignition (%)	NMT 0.1	0.02
Bulk density (g/cm^3)	0.28 - 0.33	0.302
pH	5.0 - 7.5	6.2
Total aerobic microbial count (cfu/g)	NMT 1000	Passes
Total combined molds and yeasts count (cfu/g)	NMT 100	Passes
Escherichia coli	None Present	None Present
Salmonella species	None Present	None Present
Pseudomonas Aeruginosa	None Present	None Present
Staphylococcus Aureus	None Present	None Present
ASAHI Standards		
Particle size, wt. % >250 μ m (60 mesh)	LT 8.0	1.2
Particle size, wt. % >150 μ m (100 mesh)	20 - 40	28

NMT --Not More Than; LT --Less Than
We certify that the product complies with the standards of the NF, Ph. Eur., JP.
Storage conditions: Store at ambient conditions. Keep containers sealed; material is hygroscopic.

Re-evaluation Date: Three years after manufacturing, if stored as recommended.
Asahi Kasei Chemicals recommends that the customer's quality control unit may re-evaluate the quality of this material at the given time e.g. for loss on drying and extend the shelf life of this lot on its own responsibility.

Shuji ONISHI
Manager
Quality Assurance Section
CEOLUS Production Department

LAMPIRAN E

TABEL UJI T

v	α				
	0.10	0.05	0.025	0.01	0.005
1	3.078	6.314	12.706	31.821	63.657
2	1.886	2.920	4.303	6.965	9.925
3	1.638	2.353	3.182	4.451	5.841
4	1.533	2.132	2.776	3.747	4.604
5	1.476	2.015	2.561	3.365	4.012
6	1.440	1.943	2.447	3.143	3.707
7	1.415	1.895	2.365	2.998	3.499
8	1.397	1.860	2.306	2.896	3.355
9	1.383	1.833	2.262	2.821	3.250
10	1.372	1.812	2.228	2.764	3.169
11	1.363	1.796	2.201	2.718	3.106
12	1.356	1.782	2.179	2.681	3.055
13	1.350	1.771	2.160	2.650	3.012
14	1.345	1.761	2.145	2.624	2.977
15	1.341	1.753	2.131	2.602	2.947
16	1.337	1.746	2.120	2.583	2.921
17	1.333	1.740	2.110	2.567	2.898
18	1.330	1.734	2.101	2.552	2.878
19	1.328	1.729	2.093	2.539	2.861
20	1.325	1.725	2.086	2.528	2.845
21	1.323	1.721	2.080	2.518	2.831
22	1.321	1.717	2.074	2.508	2.819
23	1.319	1.714	2.069	2.500	2.807
24	1.318	1.711	2.064	2.492	2.797
25	1.316	1.708	2.060	2.485	2.787
26	1.315	1.706	2.056	2.479	2.779
27	1.314	1.703	2.052	2.473	2.771
28	1.313	1.701	2.048	2.467	2.763
29	1.311	1.699	2.045	2.462	2.756
inf.	1.282	1.645	1.960	2.326	2.576

Sumber : Ronald E. Walpole (1995) : Pengantar Statistika.

LAMPIRAN F

TABEL UJI HSD (0,05)

d.k. \ k	2	3	4	5	6	7	8	9	10	11
5	3.64	4.60	5.22	5.67	6.03	6.33	6.58	6.80	6.99	7.17
6	3.46	4.34	4.90	5.30	5.63	5.90	6.12	6.32	6.49	6.65
7	3.34	4.16	4.68	5.06	5.36	5.61	5.82	6.00	6.16	6.30
8	3.26	4.04	4.53	4.89	5.17	5.40	5.60	5.77	5.92	6.05
9	3.20	3.95	4.41	4.76	5.02	5.24	5.43	5.59	5.74	5.87
10	3.15	3.88	4.33	4.65	4.91	5.12	5.30	5.46	5.60	5.72
11	3.11	3.82	4.26	4.57	4.82	5.03	5.20	5.35	5.49	5.61
12	3.08	3.77	4.20	4.51	4.75	4.95	5.12	5.27	5.39	5.51
13	3.06	3.73	4.15	4.45	4.69	4.88	5.05	5.19	5.32	5.43
14	3.03	3.70	4.11	4.41	4.64	4.83	4.99	5.13	5.25	5.36
15	3.01	3.67	4.08	4.37	4.59	4.78	4.94	5.08	5.20	5.31
16	3.00	3.65	4.05	4.33	4.56	4.74	4.90	5.03	5.15	5.26
17	2.98	3.63	4.02	4.30	4.52	4.71	4.86	4.99	5.11	5.21
18	2.97	3.61	4.00	4.28	4.49	4.67	4.82	4.96	5.07	5.17
19	2.96	3.59	3.98	4.25	4.47	4.65	4.79	4.92	5.04	5.14
20	2.95	3.58	3.96	4.23	4.45	4.62	4.77	4.90	5.01	5.11
24	2.92	3.53	3.90	4.17	4.37	4.54	4.68	4.81	4.92	5.01
30	2.89	3.49	3.85	4.10	4.30	4.46	4.60	4.72	4.82	4.92
40	2.86	3.44	3.79	4.04	4.23	4.39	4.52	4.63	4.73	4.82
60	2.83	3.40	3.74	3.98	4.16	4.31	4.44	4.55	4.65	4.73
120	2.80	3.36	3.68	3.92	4.10	4.24	4.36	4.47	4.56	4.64
∞	2.77	3.31	3.63	3.86	4.03	4.17	4.29	4.39	4.47	4.55

Catatan kaki: Dari *Annals of mathematical statistics*. Diulang cetak seizin penerbit, The Institute of Mathematical Statistics.

Sumber: Schefler (1987).

LAMPIRAN G

TABEL UJI F

TABEL DISTRIBUSI F UNTUK 5% DAN 1%

Baris atas untuk taraf signifikan 5%
Baris bawah untuk taraf signifikan 1%

V_2 = dk penyebut	V_1 = dk pembilang																						
	1	2	3	4	5	6	7	8	9	10	11	12	14	16	20	24	30	40	50	75	100	200	500	∞
1	161	200	216	225	230	234	237	239	241	242	243	244	245	246	248	249	250	251	252	253	253	254	254	254
	4052	4999	5403	5625	5764	5859	5928	5981	6022	6056	6082	6106	6142	61,69	6208	6234	6258	6286	6302	6323	6334	6352	6361	6366
2	18,51	19,00	19,16	19,25	19,30	19,33	19,36	19,37	19,38	19,39	19,40	19,41	19,42	19,43	19,44	19,45	19,46	19,47	19,47	19,48	19,49	19,49	19,50	19,50
	98,49	99,01	99,17	99,25	99,30	99,33	99,34	99,36	97,38	99,40	99,41	99,42	99,43	99,44	99,45	99,46	99,47	99,48	99,48	99,49	99,49	99,49	99,50	99,50
3	10,13	9,55	9,28	9,12	9,01	8,94	8,88	8,84	8,81	8,78	8,76	8,74	8,71	8,69	8,66	8,64	8,62	8,60	8,58	8,57	8,56	8,54	8,54	8,53
	34,12	30,81	29,46	28,71	28,24	27,91	27,67	27,49	27,34	27,23	27,13	27,05	26,92	26,83	26,69	26,60	26,50	26,41	26,30	26,27	26,23	26,18	26,14	26,12
4	7,71	6,94	6,59	6,39	6,26	6,16	6,09	6,04	6,00	5,96	5,93	5,91	5,87	5,84	5,80	5,77	5,74	5,71	5,70	5,68	5,66	5,65	5,64	5,63
	21,20	18,00	16,69	15,98	15,52	15,21	14,98	14,80	14,66	14,54	14,45	14,37	14,24	14,15	14,02	13,93	13,83	13,74	13,69	13,61	13,57	13,52	13,48	13,46
5	6,61	5,79	5,41	5,19	5,05	4,95	4,88	4,82	4,78	4,74	4,70	4,68	4,64	4,60	4,56	4,53	4,50	4,46	4,44	4,42	4,40	4,38	4,37	4,36
	16,26	13,27	12,06	11,39	10,97	10,67	10,45	10,27	10,15	10,05	9,96	9,89	9,77	9,68	9,55	9,47	9,38	9,29	9,24	9,17	9,13	9,07	9,04	9,02
6	5,99	5,14	4,76	4,53	4,39	4,28	4,21	4,15	4,10	4,06	4,03	4,00	3,96	3,92	3,87	3,84	3,81	3,77	3,75	3,72	3,71	3,69	3,68	3,67
	13,74	10,92	9,78	9,15	8,75	8,47	8,26	8,10	7,98	7,87	7,79	7,72	7,60	7,52	7,39	7,31	7,23	7,14	7,09	7,02	6,99	6,94	6,90	6,88
7	5,59	4,74	4,35	4,12	3,97	3,87	3,79	3,73	3,68	3,63	3,60	3,57	3,52	3,49	3,44	3,41	3,38	3,34	3,32	3,29	3,28	3,25	3,24	3,23
	12,25	9,55	8,45	7,85	7,46	7,19	7,00	6,84	6,71	6,62	6,54	6,47	6,35	6,27	6,15	6,07	5,98	5,90	5,85	5,78	5,75	5,70	5,67	5,65
8	5,32	4,46	4,07	3,84	3,69	3,58	3,50	3,44	3,39	3,34	3,31	3,28	3,23	3,20	3,15	3,12	3,08	3,05	3,03	3,00	2,98	2,95	2,94	2,93
	11,26	8,65	7,59	7,01	6,63	6,37	6,19	6,03	5,91	5,82	5,74	5,67	5,56	5,48	5,36	5,28	5,20	5,11	5,06	5,00	4,96	4,91	4,88	4,86
9	5,12	4,26	3,86	3,63	3,48	3,37	3,29	3,23	3,18	3,13	3,10	3,07	3,02	2,98	2,93	2,90	2,86	2,82	2,80	2,77	2,76	2,73	2,72	2,71
	10,56	8,02	6,99	6,42	6,06	5,80	5,62	5,47	5,35	5,26	5,18	5,11	5,00	4,92	4,80	4,73	4,61	4,56	4,51	4,45	4,41	4,36	4,33	4,34

V_2 = dk penyebut	V_1 = dk pembilang																					
	1	2	3	4	5	6	7	8	9	10	11	12	14	16	20	24	30	40	50	75	100	200	500	∞
10	4,96	4,10	3,71	3,48	3,33	3,22	3,14	3,07	3,02	2,97	2,94	2,91	2,86	2,82	2,77	2,74	2,70	2,67	2,64	2,61	2,59	2,56	2,55	2,54
	10,04	7,56	6,55	5,99	5,64	5,39	5,21	5,06	4,95	4,85	4,78	4,71	4,60	4,52	4,41	4,33	4,25	4,17	4,12	4,05	4,01	3,96	3,93	3,91
11	4,84	3,98	3,59	3,36	3,20	3,09	3,01	2,95	2,90	2,86	2,82	2,79	2,74	2,70	2,65	2,61	2,57	2,53	2,50	2,47	2,45	2,42	2,41	2,40
	9,65	7,20	6,22	5,67	5,32	5,07	4,88	4,74	4,63	4,54	4,46	4,40	4,29	4,21	4,10	4,02	3,94	3,86	3,80	3,74	3,70	3,66	3,62	3,60
12	4,75	3,88	3,49	3,26	3,11	3,00	2,92	2,85	2,80	2,76	2,72	2,69	2,64	2,60	2,54	2,50	2,46	2,42	2,40	2,36	2,35	2,32	2,31	2,30
	9,33	6,93	5,95	5,41	5,06	4,82	4,65	4,50	4,39	4,30	4,22	4,16	4,05	3,98	3,86	3,78	3,70	3,61	3,56	3,49	3,46	3,41	3,38	3,36
13	4,67	3,80	3,41	3,18	3,02	2,92	2,84	2,77	2,72	2,67	2,63	2,60	2,55	2,51	2,46	2,42	2,38	2,34	2,32	2,28	2,26	2,24	2,22	2,21
	9,07	6,70	5,74	5,20	4,86	4,62	4,44	4,30	4,19	4,10	4,02	3,96	3,85	3,78	3,67	3,59	3,51	3,42	3,37	3,30	3,27	3,21	3,18	3,16
14	4,60	3,74	3,34	3,11	2,96	2,85	2,77	2,70	2,65	2,60	2,56	2,53	2,48	2,44	2,39	2,35	2,31	2,27	2,24	2,21	2,19	2,16	2,14	2,13
	8,86	6,51	5,56	5,03	4,69	4,46	4,28	4,14	4,03	3,94	3,86	3,80	3,70	3,62	3,51	3,43	3,34	3,26	3,21	3,14	3,11	3,06	3,02	3,00
15	4,54	3,68	3,29	3,06	2,90	2,79	2,70	2,64	2,59	2,55	2,51	2,48	2,43	2,39	2,33	2,29	2,25	2,21	2,18	2,15	2,12	2,10	2,08	2,07
	8,68	6,36	5,42	4,89	4,56	4,32	4,14	4,00	3,89	3,80	3,73	3,67	3,56	3,48	3,36	3,29	3,20	3,12	3,07	3,00	2,97	2,92	2,89	2,87
16	4,49	3,63	3,24	3,01	2,85	2,74	2,66	2,59	2,54	2,49	2,45	2,42	2,37	2,33	2,28	2,24	2,20	2,16	2,13	2,09	2,07	2,04	2,02	2,01
	8,53	6,23	5,29	4,77	4,44	4,20	4,03	3,89	3,78	3,69	3,61	3,55	3,45	3,37	3,25	3,18	3,10	3,01	2,96	2,89	2,86	2,80	2,77	2,75
17	4,45	3,59	3,20	2,96	2,81	2,70	2,62	2,55	2,50	2,45	2,41	2,38	2,33	2,29	2,23	2,19	2,15	2,11	2,08	2,04	2,02	1,99	1,97	1,96
	8,40	6,11	5,18	4,67	4,34	4,10	3,93	3,79	3,68	3,59	3,52	3,45	3,35	3,27	3,16	3,08	3,00	2,92	2,86	2,79	2,76	2,70	2,67	2,65
18	4,41	3,55	3,16	2,93	2,77	2,66	2,58	2,51	2,46	2,41	2,37	2,34	2,29	2,25	2,19	2,15	2,11	2,07	2,04	2,00	1,98	1,95	1,93	1,92
	8,28	6,01	5,09	4,58	4,25	4,01	3,85	3,71	3,60	3,51	3,44	3,37	3,27	3,19	3,07	3,00	2,91	2,83	2,78	2,71	2,68	2,62	2,59	2,57
19	4,38	3,52	3,13	2,90	2,74	2,63	2,55	2,48	2,43	2,38	2,34	2,31	2,26	2,21	2,15	2,11	2,07	2,02	2,00	1,96	1,94	1,91	1,90	1,88
	8,18	5,93	5,01	4,50	4,17	3,94	3,77	3,63	3,52	3,43	3,36	3,30	3,19	3,12	3,00	2,92	2,84	2,76	2,70	2,63	2,60	2,54	2,51	2,49
20	4,35	3,49	3,10	2,87	2,71	2,60	2,52	2,45	2,40	2,35	2,31	2,28	2,23	2,18	2,12	2,08	2,04	1,99	1,96	1,92	1,90	1,87	1,85	1,84
	8,10	5,85	4,94	4,43	4,10	3,87	3,71	3,56	3,45	3,37	3,30	3,23	3,13	3,05	2,94	2,86	2,77	2,69	2,63	2,56	2,53	2,47	2,44	2,42
21	4,32	3,47	3,07	2,84	2,68	2,57	2,49	2,42	2,37	2,32	2,28	2,25	2,20	2,15	2,09	2,05	2,00	1,96	1,93	1,89	1,87	1,84	1,82	1,81
	8,02	5,78	4,87	4,37	4,04	3,81	3,65	3,51	3,40	3,31	3,24	3,17	3,07	2,99	2,88	2,80	2,72	2,63	2,58	2,51	2,47	2,42	2,38	2,36
22	4,30	3,44	3,05	2,82	2,66	2,55	2,47	2,40	2,35	2,30	2,26	2,23	2,18	2,13	2,07	2,03	1,98	1,93	1,91	1,87	1,84	1,81	1,80	1,78
	7,94	5,72	4,82	4,31	3,99	3,76	3,59	3,45	3,35	3,26	3,18	3,12	3,02	2,94	2,83	2,75	2,67	2,58	2,53	2,46	2,42	2,37	2,33	2,31
23	4,28	3,42	3,03	2,80	2,64	2,53	2,45	2,38	2,32	2,28	2,24	2,20	2,14	2,10	2,04	2,00	1,96	1,91	1,88	1,84	1,82	1,79	1,77	1,76
	7,88	5,66	4,76	4,26	3,94	3,71	3,54	3,41	3,30	3,21	3,14	3,07	2,97	2,89	2,78	2,70	2,62	2,53	2,48	2,41	2,37	2,32	2,28	2,26

LAMPIRAN H
HASIL UJI STATISTIK KEKERASAN TABLET ANTAR FORMULA

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	67.806	6	11.301	25.294	.000
Within Groups	6.255	14	.447		
Total	74.061	20			

KEKERASAN	N	Subset for alpha = 0,05		
		1	2	3
Form 5	3	5.8200		
Form 4	3	6.0867		
Form 2	3	7.2100		
Form 1	3		7.7000	
Form 3	3		7.7067	
Form 6	3			10.4867
Form 7	3			10.6867
Sig.				1.000

LAMPIRAN I
HASIL UJI STATISTIK KERAPUHAN TABLET ANTAR FORMULA

ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	3.303	6	.550	114.799	.000
Within Groups	.067	14	.005		
Total	3.370	20			

KERAPUHAN

Formula	N	Subset for alpha = 0.05			
		1	2	3	4
Form 7	3	.3800			
Form 6	3	.5567	.5567		
Form 3	3		.6100	.6100	
Form 1	3			.7900	
Form 2	3			.7900	
Form 4	3				1.3200
Form 5	3				1.5633
Sig.		.083	.958	.075	1.000

LAMPIRAN J
HASIL UJI STATISTIK WAKTU HANCUR TABLET ANTAR FORMULA

ANAVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	43.494	6	7.249	46.078	.000
Within Groups	2.202	14	.157		
Total	45.696	20			

Waktu hancur	N	Subset for alpha = 0.05			
		1	2	3	4
5.00	3	6.6767			
4.00	3		7.9533		
1.00	3			9.0700	
2.00	3			9.9700	9.9700
3.00	3				10.2533
6.00	3				10.4700
7.00	3				11.0433
Sig.		1.000	1.000	.149	.060

LAMPIRAN K
HASIL UJI ANAVA KEKERASAN TABLET DENGAN DESIGN EXPERT

Response 1 Kekerasan Tablet
ANOVA for Special Cubic Mixture Model
***** Mixture Component Coding is L_Pseudo. *****
Analysis of variance table [Partial sum of squares - Type III]

Source	Sum of Squares	df	Mean Square	F value	Pvalue Prob > F
Model	23,15	6	3.86	6.366E+007	< 0.0001
Linear	1,11		0.56	6.366E+007	significant
Mixture	1,49	*2*	1.49	6.366E+007	*< 0.0001*
AB	2,94	*1*	2.84	6.366E+007	*< 0.0001*
AC	7,34	*1*	7.34	6.366E+007	*< 0.0001*
BC	6,55	*1*	6.55	6.366E+007	*< 0.0001*
ABC	0,000	*1*	0.000		*< 0.0001*
Pure Error	23,15	*3*			
Cor Total		9			

Component	Coefficient Estimate	df	Error Standard	95% CI Low	95% CI High
A-Mg Stearat	7,70	1			1.31
B-Aerosil	7,21	1			1.31
C-Am.manihot	7,71	1			1.31
AB	-5,46	1			1.50
AC	-7,54	1			1.50
BC	12,12	1			1.50
ABC	87,69	1			1.61

Final Equation in Terms of L_Pseudo Components:

Kekerasan Tablet =

+7.70	* A
+7.21	* B
+7.71	* C
-5.46	* A * B
-7.54	* A * C
+12.12	* B * C
+87.69	* A * B * C

Final Equation in Terms of Real Components:

Kekerasan Tablet =

+7.7000	* Mg Stearat
+7.2100	* Aerosil
+7.7100	* Amilum Manihot
-5.46000	* Mg Stearat * Aerosil
-7.54000	* Mg Stearat * Amilum Manihot

+12.12000 * Aerosil * Amilum Manihot
+87.69000 * Mg Stearat * Aerosil * Amilum Manihot

Final Equation in Terms of Actual Components:

Kekerasan Tablet =

+7.70000 * Mg Stearat
+7.21000 * Aerosil
+7.71000 * Amilum Manihot
-5.46000 * Mg Stearat * Aerosil
-7.54000 * Mg Stearat * Amilum Manihot
+12.12000 * Aerosil * Amilum Manihot
+87.69000 * Mg Stearat * Aerosil * Amilum Manihot

LAMPIRAN L
HASIL UJI ANAVA KERAPUHAN TABLET DENGAN DESIGN EXPERT

Response 2 Kerapuhan Tablet
ANOVA for Special Cubic Mixture Model
***** Mixture Component Coding is L_Pseudo. *****
Analysis of variance table [Partial sum of squares - Type III]

Source	Sum of Squares	df	Mean Square	F value	Pvalue Prob > F
	1.15	6	0.19	6.366E+007	< 0.0001
	0.13	2	0.063	*6.366E+007*	significant
	0.22	1	0.22	*6.366E+007*	*< 0.0001*
	0.59	1	0.59	*6.366E+007*	*< 0.0001*
	0.016	1	0.016	*6.366E+007*	*< 0.0001*
	0.51	1	0.51	*6.366E+007*	*< 0.0001*
	0.000	3			*< 0.0001*
	1.15	9			

Component	Coefficient Estimate	df	Standard Error	95% CI Low	95% CI High	VIF

A-Mg Stearat	0.79	1	1.31
B-Aerosil	0.79	1	1.31
C-	0.61	1	1.31
Am.manihot	2.12	1	1.50
AB	3.44	1	1.50
AC	-0.56	1	1.50
BC	-24.45	1	1.61
ABC			

Final Equation in Terms of L_Pseudo Components:

Kerapuhan Tablet	=	
	+0.79	* A
	+0.79	* B
	+0.61	* C
	+2.12	* A * B
	+3.44	* A * C
	-0.56	* B * C
	-24.45	* A * B * C

Final Equation in Terms of Real Components:

Kerapuhan Tablet =

+0.7900 * Mg Stearat
+0.79000 * Aerosil
+0.61000 * Amilum Manihot
+2.12000 * Mg Stearat * Aerosil
+3.4400 * Mg Stearat * Amilum Manihot
-0.56000 * Aerosil * Amilum Manihot
-24.45000 * Mg Stearat * Aerosil * Amilum Manihot

Final Equation in Terms of Actual Components:

Kerapuhan Tablet =

+0.79000 * Mg Stearat
+0.79000 * Aerosil
+0.61000 * Amilum Manihot
+2.12000 * Mg Stearat * Aerosil
+3.44000 * Mg Stearat * Amilum Manihot
-0.56000 * Aerosil * Amilum Manihot
-24.45000 * Mg Stearat * Aerosil * Amilum Manihot

LAMPIRAN M
HASIL UJI ANAVA WAKTU HANCUR TABLET DENGAN DESIGN EXPERT

Response 3 Waktu Hancur Tablet
ANOVA for Special Cubic Mixture Model
***** Mixture Component Coding is L_Pseudo. *****
Analysis of variance table [Partial sum of squares - Type III]

Source	Sum of Squares	df	Mean Square	F value	Pvalue Prob > F
Model	17.05	6	*2.84*	13.59	0.0280
LinearMixture	*6.77*	2	*3.39*	16.19	significant
AB	*1.33*	1	*1.33*	*6.37*	*0.0247*
AC	*5.88*	1	*5.88*	*28.10*	*0.0859*
BC	*0.10*	1	*0.10*	*0.50*	*0.0131*
ABC	*5.89*	1	5.89	*28.18*	*0.5320*
Pure Error	0.63	3	0.21		*0.0130*
Cor Total	17.68	9			

Component	Coefficient Estimate	df	Standard Error	95% CI Low	95% CI High VIF

A-Mg	8.51	1	0.32	7.48	9.54
Stearat	9.97	1	0.32	8.94	11.00
B-Aerosil	10.25	1	0.32	9.22	11.28
C-	-5.16	1	2.04	-11.67	1.35
Am.manihot	-10.84	1	2.04	-17.35	-4.33
AB	1.44	1	2.04	-5.07	7.95
AC	83.`9	1	15.67	33.32	133.06
BC					
ABC					

Final Equation in Terms of L_Pseudo Components:

Waktu Hancur Tablet =

+8.51 * A
+9.97 * B
+10.25 * C
-5.16 * A * B
-10.84 * A * C
+1.44 * B * C
+83.19 * A * B * C

Final Equation in Terms of Real Components:

Waktu Hancur Tablet =

+8.5100 * Mg Stearat
+9.9700 * Aerosil
+10.25000 * Amilum Manihot
-5.16000 * Mg Stearat * Aerosil
-10.84000 * Mg Stearat * Amilum Manihot
+1.44000 * Aerosil * Amilum Manihot
+83.19000 * Mg Stearat * Aerosil * Amilum Manihot

Final Equation in Terms of Actual Components:

Waktu Hancur Tablet =

+8.51000 * Mg Stearat
+9.97000 * Aerosil
+10.25000 * Amilum Manihot
-5.1600 * Mg Stearat * Aerosil
-10.84000 * Mg Stearat * Amilum Manihot
+1.4400 * Aerosil * Amilum Manihot
+83.1900 * Mg Stearat * Aerosil * Amilum Manihot