

LAMPIRAN A

Hasil Uji Kekerasan Tablet Ranitidin HCl

NO	Batch I			
	FA	FB	FC	FD
1	12,9	12,1	11,8	11,8
2	12,7	12,7	13,4	13,4
3	11,1	11,5	12,1	12,1
4	11,3	13,2	12,0	11,3
5	13,7	11,9	11,9	12,9
6	12,0	12,9	12,9	12,0
7	13,1	11,6	11,3	12,7
8	11,7	11,8	13,7	11,1
9	11,2	13,4	12,0	11,3
10	11,9	12,1	12,3	13,7
X rata	12,16	12,32	12,34	12,23
SD	0,89	0,68	0,82	0,91
SD rel (%)	7,35	5,52	6,62	7,44

NO	Batch II			
	FA	FB	FC	FD
1	13,1	13,1	11,6	13,1
2	11,9	11,9	11,8	11,7
3	12,9	12,9	13,4	11,8
4	11,6	11,6	12,1	11,9
5	11,8	11,8	11,3	13,6
6	13,4	13,4	12,9	12,9
7	12,1	12,1	12,9	12,7
8	11,7	12,9	12,7	11,5
9	12,5	12,7	11,1	12,1
10	11,6	11,1	11,6	12,9
X rata	12,26	12,35	12,14	12,42
SD	0,67	0,75	0,78	0,71
SD rel (%)	5,45	6,09	6,47	5,70

NO	<i>Batch III</i>			
	FA	FB	FC	FD
1	11,1	11,7	11,3	12,1
2	11,3	11,2	13,7	12,0
3	12,9	11,9	12,9	11,9
4	13,6	13,6	12,9	12,9
5	12,9	12,9	12,7	11,3
6	12,7	12,7	11,1	13,7
7	11,5	11,5	11,3	11,6
8	13,2	13,2	13,7	11,8
9	11,1	11,1	12,0	13,4
10	12,3	12,3	11,6	12,1
X rata	12,26	12,21	12,32	12,28
SD	0,94	0,87	0,99	0,79
SD rel (%)	7,63	7,09	8,03	6,42

LAMPIRAN B

Hasil Uji Kerapuhan Tablet Ranitidin HCl

Batch I

Formula	Replikasi	Berat awal (gram)	Berat akhir (gram)	Kerapuhan (%)	$\bar{x} \pm SD$	SDrel (%)
A	1	13,80	13,77	0,2174	0,2149	1,67
	2	14,23	14,2	0,2108	±	
	3	13,85	13,82	0,2166	0,0036	
B	1	13,80	13,77	0,2174	0,2159	1,91
	2	14,20	14,17	0,2113	±	
	3	13,69	13,66	0,2191	0,0041	
C	1	13,76	13,73	0,2180	0,2168	0,72
	2	13,95	13,92	0,2151	±	
	3	13,80	13,77	0,2174	0,0016	
D	1	13,88	13,85	0,2161	0,2171	0,41
	2	13,80	13,77	0,2174	±	
	3	13,77	13,74	0,2179	0,0009	

Batch II

Formula	Replikasi	Berat awal (gram)	Berat akhir (gram)	Kerapuhan (%)	$X \pm SD$	SDrel (%)
A	1	13,79	13,76	0,2175	0,2151	1,67
	2	14,22	14,19	0,2110	±	
	3	13,84	13,81	0,2168	0,0036	
B	1	13,81	13,78	0,2172	0,2159	1,83
	2	14,19	14,16	0,2114	±	
	3	13,70	13,67	0,2190	0,0040	
C	1	13,75	13,72	0,2182	0,2170	0,72
	2	13,94	13,91	0,2152	±	
	3	13,79	13,76	0,2175	0,0016	
D	1	13,89	13,86	0,2160	0,2171	0,47
	2	13,81	13,78	0,2172	±	
	3	13,76	13,73	0,2180	0,0010	

Batch III

Formula	Replikasi	Berat awal (gram)	Berat akhir (gram)	Kerapuhan (%)	X±SD	SDrel (%)
A	1	13,81	13,78	0,2172	0,2148	1,67
	2	14,24	14,21	0,2107	±	
	3	13,86	13,83	0,2165	0,0036	
B	1	13,81	13,78	0,2172	0,2158	1,91
	2	14,21	14,18	0,2111	±	
	3	13,70	13,67	0,2190	0,0041	
C	1	13,77	13,74	0,2179	0,2167	0,72
	2	13,96	13,93	0,2149	±	
	3	13,81	13,78	0,2172	0,0016	
D	1	13,89	13,86	0,2160	0,2170	0,44
	2	13,81	13,78	0,2172	±	
	3	13,77	13,74	0,2179	0,0010	

LAMPIRAN C

Hasil Uji Keseragaman Ukuran Tablet Ranitidin HCl

No	FA			FB			FC			FD		
	I	II	III	I	II	III	I	II	III	I	II	III
1	0,45	0,47	0,45	0,46	0,45	0,44	0,46	0,47	0,47	0,46	0,47	0,46
2	0,45	0,48	0,46	0,47	0,45	0,44	0,47	0,46	0,45	0,46	0,47	0,47
3	0,46	0,46	0,46	0,46	0,45	0,45	0,47	0,45	0,45	0,46	0,46	0,47
4	0,45	0,46	0,46	0,47	0,46	0,44	0,47	0,45	0,45	0,47	0,45	0,45
5	0,46	0,46	0,47	0,45	0,45	0,45	0,46	0,45	0,46	0,47	0,45	0,46
6	0,47	0,45	0,44	0,45	0,45	0,46	0,46	0,44	0,47	0,45	0,47	0,46
7	0,47	0,46	0,44	0,45	0,44	0,47	0,45	0,46	0,47	0,45	0,45	0,47
8	0,46	0,44	0,45	0,45	0,44	0,47	0,47	0,47	0,46	0,44	0,47	0,47
9	0,44	0,46	0,46	0,46	0,45	0,48	0,45	0,44	0,45	0,44	0,44	0,47
10	0,45	0,45	0,46	0,47	0,46	0,47	0,45	0,45	0,46	0,47	0,46	0,45
11	0,46	0,44	0,46	0,45	0,46	0,45	0,47	0,45	0,45	0,46	0,46	0,45
12	0,45	0,45	0,46	0,46	0,47	0,45	0,46	0,46	0,46	0,47	0,46	0,45
13	0,45	0,45	0,46	0,47	0,45	0,46	0,45	0,45	0,46	0,45	0,46	0,45
14	0,46	0,46	0,46	0,46	0,45	0,44	0,44	0,46	0,47	0,45	0,46	0,46
15	0,47	0,47	0,45	0,46	0,45	0,45	0,46	0,46	0,44	0,46	0,46	0,46
16	0,46	0,44	0,46	0,47	0,44	0,46	0,46	0,46	0,46	0,44	0,47	0,45
17	0,47	0,46	0,45	0,47	0,45	0,44	0,45	0,45	0,44	0,47	0,47	0,47
18	0,45	0,45	0,45	0,45	0,46	0,46	0,45	0,44	0,47	0,47	0,46	0,44
19	0,45	0,45	0,45	0,44	0,46	0,46	0,45	0,45	0,45	0,44	0,45	0,45
20	0,45	0,46	0,45	0,46	0,45	0,47	0,46	0,45	0,45	0,46	0,45	0,44
X rata	0,46	0,46	0,46	0,46	0,45	0,46	0,46	0,45	0,46	0,46	0,46	0,46
SD	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01	0,01
X±SD	0,46 ±	0,46 ±	0,46 ±	0,46 ±	0,45 ±	0,46 ±	0,46 ±	0,45 ±	0,46 ±	0,46 ±	0,46 ±	0,46 ±

LAMPIRAN D

Hasil Uji Penetapan Kadar Tablet Ranitidin HCl

Batch I

Formula	Replikasi	Absorbansi	C sampel ($\mu\text{g/ml}$)	C teoritis ($\mu\text{g/ml}$)	Kadar (%)	$\bar{X} \pm \text{SD}$	SD rel (%)
A	1	0,523	12,56	12,41	101,21	101,62	0,35
	2	0,510	12,25	12,03	101,83	\pm	
	3	0,534	12,83	12,60	101,83	0,36	
B	1	0,530	12,73	12,60	101,03	101,50	0,44
	2	0,521	12,51	12,32	101,54	\pm	
	3	0,527	12,66	12,42	101,93	0,45	
C	1	0,514	12,34	12,32	100,16	100,54	0,65
	2	0,511	12,27	12,25	100,16	\pm	
	3	0,520	12,49	12,33	101,30	0,66	
D	1	0,519	12,47	12,30	101,38	101,11	0,53
	2	0,513	12,32	12,26	100,49	\pm	
	3	0,521	12,51	12,33	101,46	0,54	

Batch II

Formula	Replikasi	Absorbansi	C sampel ($\mu\text{g/ml}$)	C teoritis ($\mu\text{g/ml}$)	Kadar (%)	$\bar{X} \pm \text{SD}$	SD rel (%)
A	1	0,537	12,90	12,69	101,65	101,77	0,11
	2	0,524	12,59	12,37	101,78	\pm	
	3	0,539	12,95	12,71	101,89	0,12	
B	1	0,521	12,51	12,33	101,46	101,47	0,13
	2	0,527	12,66	12,46	101,61	\pm	
	3	0,537	12,90	12,73	101,34	0,13	
C	1	0,530	12,73	12,58	101,19	101,20	0,16
	2	0,526	12,63	12,46	101,36	\pm	
	3	0,527	12,66	12,53	101,04	0,16	
D	1	0,521	12,51	12,37	101,13	101,16	0,51
	2	0,526	12,63	12,42	101,69	\pm	
	3	0,511	12,27	12,19	100,66	0,52	

Batch III

Formula	Replikasi	Absorbansi	Csampil ($\mu\text{g/ml}$)	Cteoritis ($\mu\text{g/ml}$)	Kadar (%)	$\bar{X} \pm \text{SD}$	SD rel (%)
A	1	0,515	12,37	12,35	100,16	100,19	0,05
	2	0,511	12,27	12,25	100,16	\pm	
	3	0,517	12,42	12,39	100,24	0,05	
B	1	0,521	12,51	12,28	101,87	101,39	0,58
	2	0,513	12,32	12,23	100,74	\pm	
	3	0,514	12,34	12,15	101,56	0,59	
C	1	0,521	12,51	12,33	101,46	101,33	0,45
	2	0,523	12,56	12,35	101,70	\pm	
	3	0,511	12,27	12,17	100,82	0,45	
D	1	0,527	12,66	12,50	101,28	101,46	0,15
	2	0,520	12,49	12,30	101,54	\pm	
	3	0,519	12,47	12,28	101,55	0,15	

LAMPIRAN E

Hasil Uji *Floating Lag Time* Tablet Ranitidin HCl

Batch	Replikasi	<i>Floating Lag Time</i> (menit)			
		Formula A	Formula B	Formula C	Formula D
I	1	-	1,52	1,04	0,17
	2	-	1,49	1,01	0,20
	3	-	1,48	1,00	0,16
	x Rata	-	1,50	1,02	0,18
	SD	-	0,02	0,02	0,02
II	1	-	1,53	1,01	0,18
	2	-	1,52	1,02	0,18
	3	-	1,50	1,04	0,17
	x Rata	-	1,52	1,02	0,18
	SD	-	0,02	0,02	0,01
III	1	-	1,49	1,03	0,20
	2	-	1,52	1,00	0,21
	3	-	1,51	1,04	0,16
	x Rata	-	1,51	1,02	0,19
	SD	-	0,02	0,02	0,03

LAMPIRAN F

Contoh Perhitungan

Contoh perhitungan sudut diam:

Formula (A):

$$W \text{ persegi panjang} = 4,53 \text{ gram}$$

$$W \text{ lingkaran} = 0,84 \text{ gram}$$

$$\begin{aligned} \text{Luas persegi panjang} &= 29,5 \times 21 \\ &= 619,5 \text{ cm}^2 \end{aligned}$$

$$\text{Luas lingkaran} = \frac{0,84}{4,53} \times 619,5 = 114,87$$

$$A = \pi \cdot r^2$$

$$r^2 = \frac{A}{\pi}$$

$$= \frac{114,87}{3,14} = 36,58$$

$$r = 6,05 \text{ cm}$$

$$\text{tg } \alpha = \frac{t}{r} = \frac{3,87}{6,05} = 0,6397$$

$$\alpha = 32,61^\circ$$

Contoh perhitungan indeks kompresibilitas:

Formula (A):

$$\text{Berat Gelas} = 125,89 \text{ g}(W1)$$

$$\text{Berat Gelas} + \text{granul} = 165,69 \text{ g}(W2)$$

$$V1 = 100 \text{ ml}$$

$$V2 = 86 \text{ ml}$$

$$Bj \text{ nyata} = \frac{(W_2 - W_1)}{V_1} = \frac{(165,69 - 125,89)}{100} = 0,398$$

$$Bj \text{ mampat} = \frac{(W_2 - W_1)}{V_2} = \frac{(165,69 - 125,89)}{87} = 0,46$$

$$\% \text{ kompresibilitas} = \left(1 - \frac{Bj.nyata}{Bj.mampat} \right) \times 100\% = 13,48\%$$

Contoh perhitungan akurasi & presisi:

%	Bahan aktif (mg)	Matriks (mg)	+ aquadest ad	Pipet	+ aquadest ad	Konsentrasi (ppm)
100	25	33,3	100	0,5 ml	10 ml	12,5

$$\text{Absorbansi} = 0,523 \rightarrow y = 0,0046x + 0,0079$$

$$\text{Konsentrasi sampel} = 12,5143 \text{ ppm}$$

$$\text{Konsentrasi teoritis} = 12,7500 \text{ ppm}$$

$$\begin{aligned} \% \text{ perolehan kembali} &= (\text{konsentrasi sampel} / \text{konsentrasi teoritis}) \times 100\% \\ &= (12,5143 / 12,7500) \times 100\% \\ &= 98,14 \% \end{aligned}$$

$$\begin{aligned} \text{Untuk menghitung \% KV} &= \frac{SD}{\bar{X}} \times 100\% \\ &= \frac{0,79}{98,92} \times 100 \\ &= 0,79 \% \end{aligned}$$

Contoh Perhitungan % Obat Terlepas:

$$\% \text{ obat terlepas} = \frac{W_t}{\frac{PK}{100} \times \text{dosis}} \times 100\%$$

Formula A replikasi 1 pada t=360 menit

$$\begin{aligned}\% \text{ obat terlepas} &= \frac{190,99}{\frac{101,32}{100} \times 300} \times 100\% \\ &= 97,59\%\end{aligned}$$

Contoh perhitungan AUC pada disolusi:

$$\text{Rumus: } \frac{(W_{t_n} + W_{t_{n-1}}) \times (t_n - t_{n-1})}{2}$$

Formula A *batch* 1 pada t=10 menit:

$$W_{t_{n-1}} = 190,99$$

$$W_{t_n} = 193,54$$

$$t_n = 10 \text{ menit}$$

$$t_{n-1} = 5 \text{ menit}$$

$$\begin{aligned}\text{AUC} &= \frac{(193,54 + 190,99)}{2} \times (10 - 5) \\ &= 961,31\end{aligned}$$

$$\begin{aligned}\text{Luas } \square &= 360 \times \text{PK} \times \text{dosis} \\ &= 360 \times 101,32 \times 300 \\ &= 109425,6\end{aligned}$$

$$\begin{aligned}\% \text{ED Formula A } \textit{batch} \text{ I} &= \frac{(\sum \text{AUC})}{\text{Luas} \square} \times 100\% \\ &= \frac{75976,61}{109425,6} \times 100\% \\ &= 69,43\%\end{aligned}$$

LAMPIRAN G

Sertifikat Analisa Bahan Baku Ranitidin HCl



Plant Bandung

LAPORAN ANALISA BAHAN BAKU

Nama Bahan Baku : RANITIDINI HYDROCHLORIDUM	No. Batch :4905377002 Exp. Date :01-07-2014	Kode : F-SS-BB-00215/1/0 Tgl. Berlaku : 31 Juli 2003
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Kode Bahan :3012178 Origin :Chemo Lugano- Switzerland	Supplier :PT. Narda Tita Tgl. Sampling :01-05-2010 Tgl. Selesai :03-05-2010	Jumlah :125 kg Pemeriksa :Reinfa No. BTBS :B100231
No. LA :B100231 No. SP :P103133		

NO	PEMERIKSAAN	PERSYARATAN	HASIL
1	Pemerian (R)	Serbuk putih atau kuning pucat, hablur, praktis serbuk tidak berbau, sensitif terhadap cahaya dan kelembaban	Serbuk hablur, warna kuning pucat, tidak berbau.
2	Identifikasi (R)	Sesuai	Sesuai
3	Kelarutan	Sangat mudah larut dalam air, agak larut dalam etanol dan sukar larut dalam kloroform	Sesuai
4	Titik leleh	Sekitar 140° C, dengan penguraian	138,8°C - 140,2°C dengan penguraian
5	pH (R)	Antara 4,5 dan 6,0	5,22
6	Susut pengeringan (R)	Tidak lebih dari 0,75 %	0,09%
7	Sisa pemijaran	Tidak lebih dari 0,1 %	0,02%
8	Kadar (R)	98,5 % - 101,5 % terhadap berat kering	99,55%

Pustaka : FI IV, USP 25, PT. KIMIA FARMA

Kesimpulan : Memenuhi Syarat

Penanggung Jawab :
MPM

(Dra. Titin Supiamah)

Bandung, 04 Mei 2010

AMPM

(Dra. E. Mimin Amaliana)

Jl. Pejajaran No. 29-31
Bandung 40171

Halaman 1 dari 1
Telap (022) 4204043, 4204044
Fax. (022) 4237079

D:\SPBB\LA Bahan Baku\LA save BB\2010\Ranitidini HCl - 00215 (0), LA BB100139.doc

Plant Bandung

Sertifikat Analisa Bahan Carbomer 980

Novoneon

Certificate of Analysis

Kelurahan 2 Haven 1992
 11 9130 Kalle
 Belgium

PHONE +31 (0)3 5709464
 FAX +31 (0)3 5709470

Bill to: Novoneon Asia Pacific Limited Room 1107-1110, Shui On Centre 6 B Harbour Road Wanchai HONG KONG	Delivery to: PT Lutan L was Tbk Graha Indramas, Jl. Ap II K S Tuban No. 77 11410 Jakarta INDONESIA
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Customer Order Number 9851 OD 262367	Our Order Number 00233957	Date of Shipment
Our Product Description Carbopol 980		Customer Product Description

Test Description Lot Number Quantity (kgs)	Test Results			Specification Limits	Test Method
	03/2008 2000.00	03/2008 480.00	03/2008 2000.00		
0.2% MUCILAGE VISC.	21,750	24,500	23,800	13000-10000 CPS	BFG 430 T
0.5% MUCILAGE VISC.	50,000	51,600	49,600	40000-60000 CPS	BFG 430 I
RESID. SOLVENT ETHYLACETATE %	.25	.15	.25	< 0.45 %	SA-009
RESIDUAL SOLVENT CYCLOHEXANE %	.06	.06	.08	< 0.45 %	SA-009
CLARITY %	95	95	95	> 85 %	BFG 485 D
% LOSS ON DRYING				< 2 %	SA-004
COMBINED RESIDUAL SOLVENT %	.31	.21	.33	< 0.45 %	
HEAVY METALS PPM				< 10 PPM	SA-012

WHERE AN ACTUAL VALUE IS NOT GIVEN, THE NOVONEON STATISTICAL QUALITY CONTROL PROGRAM DETERMINES THIS PARAMETER TO BE WITHIN SPECIFICATION LIMITS.

Manufacturing Date :	03/2008	03/2008	03/2008
Recommended retesting Date :	03/2008	03/2008	03/2008

Handwritten: 11/2/08 20 03/07

Document generated by computer and valid without signature. Quality Control: **Turney Verbeek** Report date: 22/03/08

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LAMPIRAN H

Tabel R (0,05)

v_2	v_1								
	1	2	3	4	5	6	7	8	9
1	161,4	199,5	215,7	224,6	230,2	234	236,8	238,9	240,5
2	18,31	19,00	19,16	19,25	19,30	19,33	19,35	19,37	19,38
3	10,13	9,55	9,28	9,12	9,01	8,94	8,89	8,85	8,81
4	7,71	6,94	6,59	6,39	6,26	6,16	6,09	6,04	6,00
5	6,61	5,79	5,41	5,19	5,05	4,95	4,88	4,82	4,77
6	5,99	5,14	4,76	4,53	4,39	4,28	4,21	4,15	4,10
7	5,59	4,74	4,35	4,12	3,97	3,87	3,79	3,73	3,68
8	5,32	4,46	4,07	3,84	3,69	3,58	3,50	3,44	3,39
9	5,12	4,26	3,86	3,63	3,48	3,37	3,29	3,23	3,18
10	4,96	4,10	3,71	3,48	3,33	3,22	3,14	3,07	3,02
11	4,84	3,98	3,59	3,36	3,20	3,09	3,01	2,95	2,90
12	4,75	3,89	3,49	3,26	3,11	3,00	2,91	2,85	2,80
13	4,67	3,81	3,41	3,18	3,03	2,92	2,83	2,77	2,71
14	4,60	3,74	3,34	3,11	2,96	2,85	2,76	2,70	2,65
15	4,54	3,68	3,29	3,06	2,90	2,79	2,71	2,64	2,59
16	4,49	3,63	3,24	3,01	2,85	2,74	2,66	2,59	2,54
17	4,45	3,59	3,20	2,96	2,81	2,70	2,61	2,55	2,49
18	4,41	3,55	3,16	2,93	2,77	2,66	2,58	2,51	2,46
19	4,38	3,52	3,13	2,90	2,74	2,63	2,54	2,48	2,42
20	4,35	3,49	<u>3,10</u>	2,87	2,71	2,60	2,51	2,45	2,39
21	4,32	3,47	3,07	2,84	2,68	2,57	2,49	2,42	2,37
22	4,30	3,44	3,05	2,82	2,66	2,55	2,46	2,40	2,34
23	4,28	3,42	3,03	2,80	2,64	2,53	2,44	2,37	2,32
24	4,26	3,40	3,01	2,78	2,62	2,51	2,42	2,36	2,30
25	4,24	3,39	2,99	2,76	2,60	2,49	2,40	2,34	2,28
26	4,23	3,37	2,98	2,74	2,59	2,47	2,39	2,32	2,27
27	4,21	3,35	2,96	2,73	2,57	2,46	2,37	2,31	2,25
28	4,20	3,34	2,95	2,71	2,56	2,45	2,36	2,29	2,24
29	4,18	3,33	2,93	2,70	2,55	2,43	2,35	2,28	2,22
30	4,17	3,32	2,92	2,69	2,53	2,42	2,33	2,27	2,21
40	4,08	3,23	2,84	2,61	2,45	2,34	2,25	2,18	2,12
60	4,00	3,15	2,76	2,53	2,37	2,25	2,17	2,10	2,04
120	3,92	3,07	2,68	2,45	2,29	2,17	2,09	2,02	1,96
∞	3,84	3,00	2,60	2,37	2,21	2,10	2,01	1,94	1,88

*) Disalin dari Tabel 18 *Biometrika Tables for Statisticians*, Jilid I seizin E. S. Pearson dan Biometrika Trustees.

LAMPIRAN I

Tabel Uji r

DEGREES OF FREEDOM (DF)	5 PERCENT	1 PERCENT	DEGREES OF FREEDOM (DF)	5 PERCENT	1 PERCENT
1	.997	.1000	24	.388	.496
2	.950	.990	25	.381	.487
3	.878	.959	26	.374	.478
4	.811	.917	27	.367	.470
5	.754	.874	28	.361	.463
6	.707	.834	29	.355	.456
7	.666	.798	30	.349	.449
8	.632	.765	35	.325	.418
9	.602	.735	40	.304	.393
10	.576	.708	48	.288	.372
11	.553	.684	50	.273	.354
12	.532	.661	60	.250	.325
13	.514	.641	70	.232	.302
14	.497	.623	80	.217	.283
15	.482	.606	90	.205	.267
16	.468	.590	100	.195	.254
17	.456	.575	125	.174	.228
18	.444	.561	150	.159	.208
19	.433	.549	200	.138	.181
20	.423	.537	300	.113	.148
21	.413	.526	400	.098	.128
22	.404	.515	500	.088	.115
23	.396	.505	1000	.062	.081

LAMPIRAN J

Tabel Uji HSD (0,05)

k d. 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	4.01	4.53	4.89	5.17	5.40	5.60	5.77	5.92	6.05
9	3.20	3.55	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: Scheffler (1987).

LAMPIRAN K

Hasil Uji Statistik Kadar Air Antar Formula

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	3	6,82	2,273333	0,017733
Column 2	3	7,08	2,36	0,0147
Column 3	3	6,75	2,25	0,0199
Column 4	3	6,89	2,296667	0,018633

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0,02016	3	0,006722	0,378895	0,770972	4,066181
Within Groups	0,14193	8	0,017742			
Total	0,162	11				

Keterangan:

Fhitung < Ftabel (0,050) sehingga H diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN L

Hasil Uji Statistik Kecepatan Alir Antar Formula

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	3	22,52	7,50666	0,0050
Column 2	3	22,46	7,48666	0,0056
Column 3	3	22,45	7,48333	0,0072
Column 4	3	22,28	7,42666	0,0042

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0,010625	3	0,00354	0,6406	0,6184	4,0681
Within Groups	0,044267	8	0,00553			
Total	0,054892	11				

Keterangan:

Fhitung < Ftabel (0,050) sehingga H diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN M

Hasil Uji Statistik Sudut Diam Granul Antar Formula

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	3	96,67	32,22333	0,112533
Column 2	3	95,91	31,97	0,1093
Column 3	3	94,72	31,57333	0,112233
Column 4	3	94,5	31,5	0,1183

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	1,045133	3	0,348378	3,08049	0,090296	4,066181
Within Groups	0,904733	8	0,113092			
Total	1,949867	11				

Keterangan:

Fhitung < Ftabel (0,050) sehingga H diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN N

Hasil Uji Statistik Uji Kompresibilitas Antar Formula

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	3	40,42	13,47333	0,000433
Column 2	3	40,36	13,45333	0,000433
Column 3	3	40,32	13,44	0,0004
Column 4	3	40,28	13,42667	0,000233

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0,003567	3	0,0019	3,1737	0,0854	4,0681
Within Groups	0,003	8	0,0005			
Total	0,006567	11				

Keterangan:

Fhitung < Ftabel (0,050) sehingga H0 diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN O

Hasil Uji Statistik Kekerasan Tablet Antar Formula *Batch I*

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	10	121,6	12,16	0,7222
Column 2	10	123,2	12,32	0,4678
Column 3	10	123,4	12,34	0,5716
Column 4	10	122,3	12,23	0,829

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0,2075	3	0,0693	0,1615	0,9844	2,8266
Within Groups	23,945	36	0,6659			
Total	24,1535	39				

Keterangan:

Fhitung < Ftabel (0,050) sehingga H diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN P

Hasil Uji Statistik Kekerasan Tablet Antar Formula *Batch II*

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	10	122,6	12,26	0,4471
Column 2	10	123,5	12,35	0,565
Column 3	10	121,4	12,14	0,616
Column 4	10	124,2	12,42	0,5017

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0,4387	3	0,1425	0,2762	0,8471	2,8266
Within Groups	19,169	36	0,5324			
Total	19,6077	39				

Keterangan:

$F_{hitung} < F_{tabel} (0,05)$ sehingga H_0 diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN Q

Hasil Uji Statistik Kekerasan Tablet Antar Formula *Batch III*

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	10	122,6	12,26	0,876
Column 2	10	122,1	12,21	0,7498
Column 3	10	123,2	12,32	0,9795
Column 4	10	122,8	12,28	0,6217

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0,0627	3	0,0209	0,0259	0,9942	2,8662
Within Groups	29,045	36	0,8068			
Total	29,1077	39				

Keterangan:

Fhitung < Ftabel (0,05) sehingga H diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN R

Hasil Uji Statistik Kekerasan Tablet Antar Batch Formula A

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	10	121,6	12,16	0,7982
Column 2	10	122,6	12,26	0,4471
Column 3	10	122,6	12,26	0,876

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0,0666	2	0,0333	0,0471	0,9540	3,3541
Within Groups	19,092	27	0,7071			
Total	19,158	29				

Keterangan:

$F_{hitung} < F_{tabel} (0,050)$ sehingga H_0 diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN S

Hasil Uji Statistik Kekerasan Tablet Antar Batch Formula B

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	10	123,2	12,32	0,4617
Column 2	10	123,5	12,35	0,565
Column 3	10	122,1	12,21	0,7498

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0,1086	2	0,0543	0,0917	0,9126	3,3541
Within Groups	15,99	27	0,5922			
Total	16,0986	29				

Keterangan:

Fhitung < Ftabel (0,05) sehingga H diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN T

Hasil Uji Statistik Kekerasan Tablet Antar Batch Formula C

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	10	123,4	12,34	0,5715
Column 2	10	121,4	12,14	0,616
Column 3	10	123,2	12,32	0,9795

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0,2426	2	0,121333	0,1679	0,8462	3,3541
Within Groups	19,504	27	0,72237			
Total	19,7466	29				

Keterangan:

Fhitung < Ftabel (0,05) sehingga H diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN U

Hasil Uji Statistik Kekerasan Tablet Antar Batch Formula D

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	10	122,3	12,23	0,829
Column 2	10	124,2	12,42	0,5017
Column 3	10	122,8	12,28	0,6217

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0,194	2	0,097	0,1490	0,8622	3,3541
Within Groups	17,573	27	0,6508			
Total	17,767	29				

Keterangan:

Fhitung < Ftabel (0,05) sehingga H diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN V

Hasil Uji Statistik Kerapuhan Tablet Antar Formula *Batch I*

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	3	0,6448	0,2149	1,3E-05
Column 2	3	0,6478	0,2153	1,68E-05
Column 3	3	0,6504	0,2168	2,52E-06
Column 4	3	0,6514	0,2171	8,63E-07

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	8,72E-06	3	2,91E-06	0,3504	0,7901	4,0661
Within Groups	6,64E-05	8	8,3E-06			
Total	7,51E-05	11				

Keterangan:

Fhitung < Ftabel (0,05) sehingga H diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN W

Hasil Uji Statistik Kerapuhan Tablet Antar Formula *Batch II*

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	3	0,6453	0,2151	1,27E-05
Column 2	3	0,6476	0,2158	1,58E-05
Column 3	3	0,6509	0,2169	2,46E-06
Column 4	3	0,6512	0,2170	1,01E-06

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	7,95E-06	3	2,65E-06	0,3314	0,8030	4,0661
Within Groups	6,4E-05	8	8E-06			
Total	7,19E-05	11				

Keterangan:

Fhitung < Ftabel (0,05) sehingga H diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN X

Hasil Uji Statistik Kerapuhan Tablet Antar Formula *Batch III*

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	3	0,6444	0,2148	1,27E-05
Column 2	3	0,6473	0,2176	1,71E-05
Column 3	3	0,65	0,2166	2,46E-06
Column 4	3	0,6511	0,2170	9,23E-07

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	8,97E-06	3	2,99E-06	0,3594	0,7840	4,0661
Within Groups	6,65E-05	8	8,32E-06			
Total	7,55E-05	11				

Keterangan:

Fhitung < Ftabel (0,050) sehingga H diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN Y

Hasil Uji Statistik Kerapuhan Tablet Antar Batch Formula A

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	3	0,6448	0,2933	1,3E-05
Column 2	3	0,6453	0,2151	1,27E-05
Column 3	3	0,6444	0,2148	1,27E-05

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	1,36E-07	2	6,78E-08	0,005291	0,994728	5,143253
Within Groups	7,69E-05	6	1,28E-05			
Total	7,7E-05	8				

Keterangan:

Fhitung < Ftabel (0,050) sehingga H diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN Z

Hasil Uji Statistik Kerapuhan Tablet Antar Batch Formula B

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	3	0,6478	0,215933	1,68E-05
Column 2	3	0,6476	0,215867	1,58E-05
Column 3	3	0,6473	0,215767	1,71E-05

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	4,22E-08	2	2,11E-08	0,00127	0,9987	5,1432
Within Groups	9,95E-05	6	1,66E-05			
Total	9,95E-05	8				

Keterangan:

Fhitung < Ftabel (0,05) sehingga H diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN AA

Hasil Uji Statistik Kerapuhan Tablet Antar Batch Formula C

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	3	0,6504	0,2168	2,52E-06
Column 2	3	0,6509	0,216967	2,46E-06
Column 3	3	0,65	0,216667	2,46E-06

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	1,36E-07	2	6,78E-08	0,0273	0,9731	5,1432
Within Groups	1,49E-05	6	2,48E-06			
Total	1,5E-05	8				

Keterangan:

Fhitung < Ftabel (0,05) sehingga H diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN AB

Hasil Uji Statistik Kerapuhan Tablet Antar Batch Formula D

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	3	0,6514	0,21713	8,63E-07
Column 2	3	0,6512	0,21706	1,01E-06
Column 3	3	0,6511	0,21703	9,23E-07

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	1,56E-08	2	7,78E-09	0,0083	0,9917	5,1432
Within Groups	5,6E-06	6	9,33E-07			
Total	5,62E-06	8				

Keterangan:

Fhitung < Ftabel (0,05) sehingga H diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN AC

Hasil Uji Statistik Keseragaman Ukuran Tablet Antar Formula *Batch* I

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	20	9,13	0,4565	7,66E-05
Column 2	20	9,18	0,459	8,32E-05
Column 3	20	9,16	0,458	8E-05
Column 4	20	9,14	0,457	0,000127

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>Df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	7,37E-05	3	2,46E-05	0,267861	0,848369	2,724944
Within Groups	0,006975	76	9,18E-05			
Total	0,007049	79				

Keterangan:

Fhitung < Ftabel (0,050) sehingga H diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN AD

Hasil Uji Statistik Keseragaman Ukuran Tablet Antar Formula *Batch*

II

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	20	9,12	0,456	0,000109
Column 2	20	9,04	0,452	5,89E-05
Column 3	20	9,07	0,4535	7,66E-05
Column 4	20	9,19	0,4595	7,87E-05

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0,000645	3	0,00021	2,6569	0,0543	2,7249
Within Groups	0,00615	76	8,09E-05			
Total	0,006795	79				

Keterangan:

Fhitung < Ftabel (0,05) sehingga H diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN AE

Hasil Uji Statistik Keseragaman Ukuran Tablet Antar Formula *Batch*

III

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	20	9,1	0,455	5,79E-05
Column 2	20	9,11	0,4555	0,000152
Column 3	20	9,14	0,457	9,58E-05
Column 4	20	9,15	0,4575	0,000104

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	8,5E-05	3	2,83E-05	0,2764	0,8422	2,7249
Within Groups	0,00779	76	0,000103			
Total	0,00787	79				

Keterangan:

Fhitung < Ftabel (0,05) sehingga H diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN AF

Hasil Uji Statistik Penetapan Kadar *Batch* I

Anova: Single
Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	3	304,8629	101,621	0,1274
Column 2	3	304,5063	101,5021	0,2039
Column 3	3	301,6233	100,5411	0,4292
Column 4	3	303,3314	101,1105	0,2907

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	2,1314	3	0,7104	2,7026	0,1159	4,0661
Within Groups	2,1030	8	0,2628			
Total	4,2345	11				

Keterangan:

Fhitung < Ftabel (0,050) sehingga H diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN AG

Hasil Uji Statistik Penetapan Kadar *Batch II*

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	3	305,3216	101,7739	0,0136
Column 2	3	304,4004	101,4668	0,0182
Column 3	3	303,5942	101,1981	0,0267
Column 4	3	303,4789	101,1596	0,2681

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0,7283	3	0,2427	2,9722	0,0968	4,0661
Within Groups	0,6534	8	0,0816			
Total	1,3818	11				

Keterangan:

$F_{hitung} < F_{tabel} (0,050)$ sehingga H_0 diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN AH

Hasil Uji Statistik Penetapan Kadar *Batch* III

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	3	301,696	100,5662	0,16211
Column 2	3	302,218	100,7639	0,002622
Column 3	3	302,114	100,7061	0,016667
Column 4	3	301,348	100,4583	0,015161

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	0,17140	3	0,057136	1,162719	0,382213	4,066181
Within Groups	0,3931	8	0,04914			
Total	0,56452	11				

Keterangan:

Fhitung < Ftabel (0,050) sehingga H diterima dan tidak ada perbedaan yang bermakna antar formula.

LAMPIRAN AI

Hasil Uji Statistik Disolusi Antar Formula

Uji Statistik Persen Obat

Terlepas

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	3	222,166	74,0554	0,03408
Column 2	3	215,129	71,7098	0,01661
Column 3	3	180,315	60,1051	0,01675
Column 4	3	161,475	53,8251	0,00966

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	827,5073	3	275,8358	14307,2	2,97	4,066181
Within Groups	0,154236	8	0,01928			
Total	827,6615	11				

HSD = 0,28048

		FA	FB	FC	FD
Mean		74,055 5	71,709 8	60,105 1	53,825 2
FA	74,0555	0	-2,3457 *	-13,95 *	-20,23 *
FB	71,7098		0	-11,605 *	-17,885 *
FC	60,1051			0	-6,2799 *
FD	53,8252				0

Keterangan:

Nilai HSD = 0,28048

* : Perbedaannya signifikan, karena selisihnya > nilai HSD

Uji Statistik Persen *Effeciency Dissolution*

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	3	208,4108	69,47028	0,62135
Column 2	3	191,512	63,83734	0,09470
Column 3	3	153,7	51,23333	0,00303
Column 4	3	130,34	43,44667	0,00853

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	1257,613	3	419,2043	2304,491	4,39E-12	4,06618
Within Groups	1,45526	8	0,181908			
Total	1259,068	11				

HSD = 0,86154

		FA	FB	FC	FD
	Mean	69,4703	63,8373	51,2333	43,4467
FA	69,4703	0	-5,6329 *	-18,237 *	-26,024 *
FB	63,8373		0	-12,604 *	-20,391 *
FC	51,2333			0	-7,7867 *
FD	43,4467				0

Keterangan:

Nilai HSD = 0,86154

* : Perbedaannya signifikan, karena selisihnya > nilai HSD

LAMPIRAN AJ

Hasil Uji Statistik Kurva Baku Penetapan Kadar Ranitidin HCl

REPLIKASI 1

KONSENTRASI	ABSORBANSI	X^2	Y^2	XY
7,6	0,411	57,7600	0,1689	3,1236
10	0,508	100,0000	0,2581	5,0800
12,6	0,619	158,7600	0,3832	7,7994
15	0,719	225,0000	0,5170	10,7850
17,6	0,839	309,7600	0,7039	14,7664
		851,2800	2,0310	41,5544

REPLIKASI 2

KONSENTRASI	ABSORBANSI	X^2	Y^2	XY
7,5	0,304	56,2500	0,0924	2,2800
10	0,426	100,0000	0,1815	4,2600
12,5	0,531	156,2500	0,2820	6,6375
15	0,646	225,0000	0,4173	9,6900
17,5	0,741	306,2500	0,5491	12,9675
		843,7500	1,5223	35,8350

REPLIKASI 3

KONSENTRASI	ABSORBANSI	X^2	Y^2	XY
7,8	0,328	60,8400	0,1076	2,5584
10,4	0,429	108,1600	0,1840	4,4616
13	0,542	169,0000	0,2938	7,0460
15,6	0,65	243,3600	0,4225	10,1400
18,2	0,757	331,2400	0,5730	13,7774
		912,6000	1,5809	37,9834

	$S X^2$	SXY	$S Y^2$	N	SSi	RDF
Regresi I	851,2800	41,5544	2,0310	5	1,9822	4
Regresi II	843,7500	35,8350	1,5223	5	1,4798	4
Regresi III	912,6000	37,9834	1,5809	5	1,5393	4
	2607,6300	115,3728	5,1342		5,0013	

SSc= 5,089971686

F= 0,106366418 < Ftabel_{0,05(2;12)} 3,89

LAMPIRAN AK

Hasil Uji Statistik Kurva Baku Uji Disolusi Tablet Ranitidin HCl

REPLIKASI 1				
KONSENTRASI	ABSORBANSI	X^2	Y^2	XY
30,99	0,138	960,3801	0,0190	4,2766
92,97	0,431	8643,4209	0,1858	40,0701
154,95	0,743	24009,5025	0,5520	115,1279
216,93	1,024	47058,6249	1,0486	222,1363
278,91	1,267	77790,7881	1,6053	353,3790
		158462,7165	3,4107	734,9898

REPLIKASI 2				
KONSENTRASI	ABSORBANSI	X^2	Y^2	XY
30,81	0,144	949,2561	0,0207	4,4366
92,43	0,427	8543,3049	0,1823	39,4676
154,05	0,739	23731,4025	0,5461	113,8430
216,67	1,018	46945,8889	1,0363	220,5701
277,29	1,221	76889,7441	1,4908	338,5711
		157059,5965	3,2764	716,8884

REPLIKASI 3				
KONSENTRASI	ABSORBANSI	X^2	Y^2	XY
30,57	0,141	934,5249	0,0199	4,3104
91,71	0,378	8410,7241	0,1429	34,6664
152,85	0,751	23363,1225	0,5640	114,7904
213,99	1,065	45791,7201	1,1342	227,8994
275,13	1,209	75696,5169	1,4617	332,6322
		154196,6085	3,3227	714,2986

	$S X^2$	SXY	$S Y^2$	N	SSi	RDF
Regresi I	158462,7165	734,9898	3,4107	5	3,4061	4
Regresi II	157059,5965	716,8884	3,2764	5	3,2718	4
Regresi III	154196,6085	714,2986	3,3227	5	3,3180	4
	469718,9215	2166,1768	10,0097		9,9959	

SSc= 10,00513036

F= 0,005536324 < Ftabel_{0,05(2;12)} 3,89

LAMPIRAN AL

Hasil Uji Statistik *Floating Lag Time* Antar Formula Batch I

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	3	4,49	1,4966	0,0004
Column 2	3	3,05	1,0166	0,0004
Column 3	3	0,53	0,1766	0,0004

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	2,6784	2	1,3392	3090,46153	9,12E-10	5,143253
Within Groups	0,0026	6	0,0004333			
Total	2,681	8				

Keterangan:

F hitung > F tabel (0,05) sehingga H₀ ditolak dan ada perbedaan yang bermakna antar formula

Hasil Uji HSD

HSD = 0,042049653					
	Mean	FB 1,4966666	FC 1,0166667	FD 0,1766667	
FB	1,4966666	0	-0,48	*	-1,32 *
FC	1,0166666		0		-0,84 *
FD	0,1766666				0

Keterangan:

Nilai HSD = 0,042049653

* : Perbedaannya signifikan, karena selisihnya > nilai HSD

LAMPIRAN AM

Hasil Uji Statistik *Floating Lag Time* Antar Formula *Batch II*

Anova: Single Factor

SUMMARY

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
Column 1	3	4,55	1,516667	0,0002
Column 2	3	3,07	1,02333	0,0002
Column 3	3	0,53	0,17666	3,33333E-05

ANOVA

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	2,7558	2	1,3779	8267,4666	4,77E-11	5,14325
Within Groups	0,001	6	0,0001			
Total	2,7568	8				

Keterangan:

F hitung > F tabel (0,05) sehingga H₀ ditolak dan ada perbedaan yang bermakna antar formula

Hasil Uji HSD

HSD = 0,026078088		FB	FC	FD
Mean		1,5166666	1,0233	0,1766
FB	1,51666666	0	-0,49333 *	-1,34 *
FC	1,02333333		0	-0,84667 *
FD	0,17666666			0

Keterangan:

Nilai HSD = 0,026078088

* : Perbedaannya signifikan, karena selisihnya > nilai HSD

LAMPIRAN AN

Hasil Uji Statistik *Floating Lag Time* Antar Formula Batch III

Anova: Single Factor

SUMMARY

Groups	Count	Sum	Average	Variance
Column 1	3	4,52	1,506666667	0,000233333
Column 2	3	3,07	1,023333333	0,000433333
Column 3	3	0,57	0,19	0,0007

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	2,6616666	2	1,3308333	2921,3414	1,08	5,1432
Within Groups	0,0027333	6	0,0004555	63	E-09	53
Total	2,6644	8	56			

Keterangan:

F hitung > F tabel (0,05) sehingga H₀ ditolak dan ada perbedaan yang bermakna antar formula

Hasil Uji HSD

HSD =	0,04311437			
	Mean	FB	FC	FD
		1,50666666	1,02333	0,19
FB	1,5066666	0	-0,4833 *	-1,3166 *
FC	1,0233333		0	-0,8333 *
FD	0,19			0

Keterangan:

Nilai HSD = 0,026078088

* : Perbedaannya signifikan, karena selisihnya > nilai HSD

LAMPIRAN AO

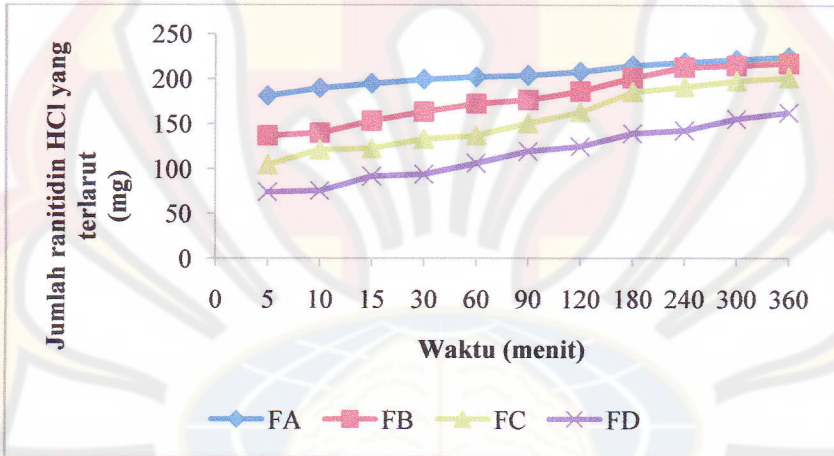
Persamaan Regresi Linier dari Uji Disolusi

Formula	Replikasi	Tipe Persamaan			R tabel
		Orde nol	Orde satu	Model Higuchi	
A	I	r = 0,9765	r = 0,9818	r = 0,9823	0,602
		k = 0,0959	k = -0,0010	k = 2,0460	
	II	r = 0,8252	r = 0,8687	r = 0,8976	
		k = 0,0985	k = -0,0010	k = 2,2735	
III	r = 0,9436	r = 0,9621	r = 0,9866		
	k = 0,1138	k = -0,0009	k = 2,5248		
X ± SD	r = 0,9151 ± 0,0796	r = 0,9375 ± 0,0604	r = 0,9555 ± 0,0502		
	k = 0,1027 ± 0,0097	k = -0,0010 ± 0,0001	k = 2,2814 ± 0,2395		
B	I	r = 0,9437	r = 0,9960	r = 0,9869	0,602
		k = 0,2241	k = -0,0019	k = 4,9739	
	II	r = 0,9439	r = 0,9666	r = 0,9871	
		k = 0,2241	k = -0,0019	k = 4,9726	
III	r = 0,9353	r = 0,9601	r = 0,9849		
	k = 0,2237	k = -0,0019	k = 4,9982		
X ± SD	r = 0,9410 ± 0,0049	r = 0,9642 ± 0,0036	r = 0,9863 ± 0,0012		
	k = 0,2240 ± 0,0002	k = -0,0019 ± 0,0000	k = 4,9816 ± 0,0144		
C	I	r = 0,9548	r = 0,9695	r = 0,9881	0,602
		k = 0,2639	k = -0,0015	k = 5,7958	
	II	r = 0,9552	r = 0,98698	r = 0,9890	
		k = 0,2650	k = -0,0015	k = 5,8232	
III	r = 0,9553	r = 0,9698	r = 0,9884		
	k = 0,2647	k = -0,0015	k = 5,8108		
X ± SD	r = 0,9551 ± 0,0003	r = 0,9697 ± 0,0002	r = 0,9885 ± 0,0005		
	k = 0,2645 ± 0,0006	k = -0,0015 ± 0,0000	k = 5,8099 ± 0,0137		
D	I	r = 0,9562	r = 0,9731	r = 0,9920	0,602
		k = 0,2358	k = -0,0013	k = 5,1908	
	II	r = 0,9578	r = 0,9742	r = 0,9931	
		k = 0,2379	k = -0,0013	k = 5,1596	
III	r = 0,9564	r = 0,9731	r = 0,9924		
	k = 0,2374	k = -0,0013	k = 5,2277		
X ± SD	r = 0,9568 ± 0,0009	r = 0,9735 ± 0,0006	r = 0,9925 ± 0,0006		
	k = 0,2370 ± 0,0011	k = -0,0013 ± 0,0000	k = 5,1927 ± 0,0341		

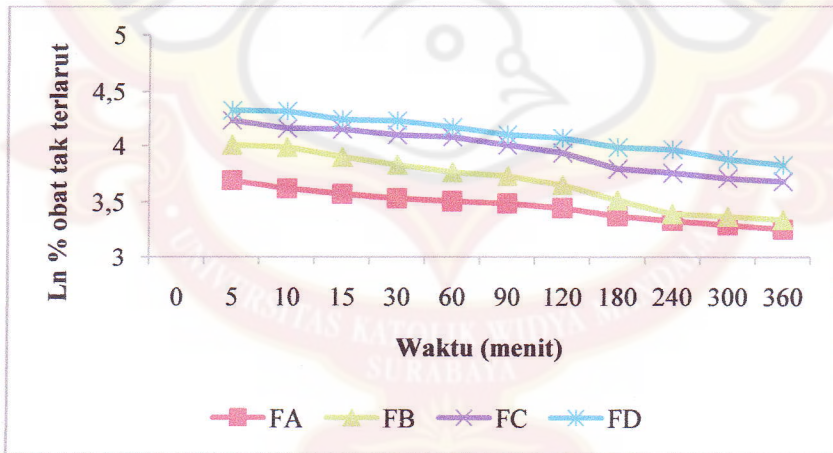
LAMPIRAN AP

Persamaan Orde Nol

r tabel = 0,602



Persamaan Orde Satu



Persamaan Higuchi

