LAMPIRAN A

HASIL UJI KERAGAMAN BOBOT TABLET LIKUISOLID IBUPROFEN

Hasil Uji Keragaman Bobot Tablet Formula A

No	Replikasi I		Replikasi II		Replikasi III	
	Bobot Tablet (mg)	**Y (%)**	**Bobot Tablet (mg)**	**Y (%)**	**Bobot Tablet (mg)**	**Y (%)**
1	764,60	99,25	756,8	99,96	758,9	101,12
2	763,10	99,06	775,3	102,4	774,2	103,20
3	763,00	99,05	754,9	99,71	756,2	100,76
4	763,80	99,15	757,9	100,1	756,7	100,82
5	756,80	98,24	760,0	100,38	755,8	100,70
6	770,20	99,98	764,2	100,94	756,3	100,77
7	768,30	99,73	759,9	100,37	770,3	102,64
8	773,50	100,41	755,8	99,83	754,8	100,57
9	767,80	99,67	763,2	100,8	749,9	99,92
10	764,70	99,27	762,5	100,7	745,6	99,35
Rata-rata	765,58	99,38	761,05	100,52	757,8	100,98
PK (%)	99,38		100,52		100,98	
SD		0,6		0,78		1,14
KV		0,6		0,78		1,13

Hasil Uji Keragaman Bobot Tablet Formula B

No	Replikasi I		Replikasi II		Replikasi III	
	Bobot Tablet (mg)	**Y (%)**	**Bobot Tablet (mg)**	**Y (%)**	**Bobot Tablet (mg)**	**Y (%)**
1	798,60	100,34	789,5	98,27	798,7	99,16
2	791,60	99,46	798,7	99,41	788,9	97,94
3	799,10	100,40	799,8	99,55	798,9	99,18
4	788,20	99,03	789,9	98,32	799,8	99,30
5	798,80	100,37	798,6	99,40	798,7	99,16
6	819,20	102,93	788,7	98,17	813,7	101,02
7	807,60	101,47	799,3	99,49	817,0	101,43
8	821,20	103,18	831,2	103,46	799,2	99,22
9	789,50	99,20	808,9	100,68	829,1	102,93
10	788,90	99,12	805,5	100,26	798,6	99,15
Rata-rata	800,27	100,55	801,0	99,70	804,2	99,85
PK (%)	100,55		99,7		99,85	
SD	1,52		1,56		1,48	
KV	1,51		1,57		1,48	

Hasil Uji Keragaman Bobot Tablet Formula C

No	Replikasi I		Replikasi II		Replikasi III	
	Bobot Tablet (mg)	Y (%)	Bobot Tablet (mg)	Y (%)	Bobot Tablet (mg)	Y (%)
1	789,90	99,37	804,5	101,40	799,2	99,94
2	787,70	99,10	798,2	100,60	793,0	99,17
3	807,80	101,63	800,2	100,86	789,9	98,78
4	802,20	100,92	809,3	102,00	803,1	100,43
5	799,90	100,63	798,3	100,62	803,2	100,44
6	798,20	100,42	788,6	99,39	787,5	98,48
7	799,90	100,63	797,6	100,53	809,1	101,18
8	799,60	100,59	809,0	101,97	799,4	99,97
9	789,90	99,37	798,2	100,60	789,5	98,73
10	803,10	101,03	800,0	100,83	805,2	100,69
Rata-rata	797,82	100,37	800,4	100,88	797,91	99,78
PK(%)	100,37		100,88		99,78	
SD	0,82		0,76		0,94	
KV	0,82		0,76		0,94	

Hasil Uji Keragaman Bobot Tablet Formula D

No	Replikasi I		Replikasi II		Replikasi III	
	Bobot Tablet (mg)	Y (%)	Bobot Tablet (mg)	Y (%)	Bobot Tablet (mg)	Y (%)
1	799,70	103,65	798,6	102,37	788,6	99,29
2	804,10	104,22	789,9	101,25	803,1	101,12
3	799,80	103,66	799,3	102,46	799,4	100,65
4	787,50	102,07	784,3	100,54	788,6	99,29
5	809,60	104,93	799,2	102,45	806,2	101,51
6	799,70	103,65	789,6	101,21	798,7	100,57
7	788,20	102,16	788,1	101,02	799,2	100,63
8	798,90	103,55	788,9	101,13	789,6	99,42
9	796,20	103,20	800,0	102,55	801,3	100,89
10	798,60	103,51	809,2	103,73	789,6	99,42
Rata-rata	798,23	103,46	794,7	101,87	796,43	100,28
PK(%)	103,46		101,87		100,28	
SD	0,85		0,98		0,84	
KV	0,83		0,97		0,84	

LAMPIRAN B

HASIL UJI KESERAGAMAN KANDUNGAN TABLET LIKUISOLID IBUPROFEN

Hasil Uji Keseragaman Kandungan Tablet Formula A Replikasi I

Abs	W sampel (mg)	C sampel (µg/ml)	C teoritis (µg/ml)	Kadar (%)
0,534	764,6	287,90	286,73	100,41
0,524	763,1	282,45	286,16	98,70
0,528	763,0	284,63	286,13	99,48
0,531	763,8	286,26	286,43	99,94
0,52	756,8	280,27	283,8	98,75
0,533	770,2	287,36	288,83	99,49
0,541	768,3	291,72	288,11	101,25
0,528	773,5	284,63	290,06	98,13
0,527	767,8	284,08	287,93	98,67
0,526	764,7	283,54	286,76	98,88
			Rata-rata	99,37
			SD	0,95
			KV	0,95

Hasil Uji Keseragaman Kandungan Tablet Formula A Replikasi II

Abs	W sampel (mg)	C sampel (µg/ml)	C teoritis (µg/ml)	Kadar (%)
0,522	756,8	281,36	283,8	99,14
0,541	775,3	291,72	290,74	100,34
0,519	754,9	279,72	283,09	98,81
0,532	757,9	286,81	284,21	100,91
0,530	760,0	285,72	285,0	100,25
0,526	764,2	283,54	286,58	98,94
0,527	759,9	284,08	284,96	99,69
0,521	755,8	280,81	283,43	99,08
0,531	763,2	286,26	286,2	100,02
0,533	762,5	287,36	285,94	100,50
			Rata-rata	99,77
			SD	0,74
			KV	0,74

Hasil Uji Keseragaman Kandungan Tablet Formula A Replikasi III

Abs	W sampel (mg)	C sampel (µg/ml)	C teoritis (µg/ml)	Kadar (%)
0,522	758,9	281,36	284,59	98,86
0,536	774,2	288,99	290,33	99,54
0,523	756,2	281,90	283,58	99,41
0,534	756,7	287,90	283,76	101,46
0,522	755,8	281,36	283,43	99,27
0,531	756,3	286,26	283,61	100,94
0,526	770,3	283,54	288,86	98,16
0,525	754,8	282,99	283,05	99,98
0,520	749,9	280,27	281,21	99,66
0,523	745,6	281,90	279,60	100,82
			Rata-rata	99,81
			SD	1,01
			KV	1,01

Hasil Uji Keseragaman Kandungan Tablet Formula B Replikasi I

Abs	W sampel (mg)	C sampel (µg/ml)	C teoritis (µg/ml)	Kadar (%)
0,552	798,6	297,72	299,48	99,41
0,550	791,6	296,63	296,85	99,92
0,552	799,1	297,72	299,66	99,35
0,554	788,2	298,81	295,58	101,09
0,550	798,8	296,63	299,55	99,02
0,567	819,2	305,90	307,20	99,58
0,560	807,6	302,08	302,85	99,75
0,566	821,2	305,35	307,95	99,16
0,551	789,5	297,17	296,06	100,37
0,562	788,9	303,17	295,84	102,48
			Rata-rata	100,01
			SD	1,06
			KV	1,06

Hasil Uji Keseragaman Kandungan Tablet Formula B Replikasi II

Abs	W sampel (mg)	C sampel (µg/ml)	C teoritis (µg/ml)	Kadar (%)
0,544	789,5	293,35	296,06	99,09
0,552	798,7	297,72	299,51	99,40
0,551	799,8	297,17	299,93	99,08
0,545	789,9	293,90	296,21	99,22
0,556	798,6	299,90	299,48	100,14
0,560	788,7	302,08	295,76	102,14
0,566	799,3	305,35	299,74	101,87
0,580	831,2	312,99	311,70	100,41
0,559	808,9	301,54	303,34	99,41
0,561	805,5	302,63	302,06	100,19
			Rata-rata	100,09
			SD	1,12
			KV	1,12

Hasil Uji Keragaman Kandungan Tablet Formula B Replikasi III

Abs	W sampel (mg)	C sampel (µg/ml)	C teoritis (µg/ml)	Kadar (%)
798,7	296,63	299,51	99,04	798,7
788,9	297,17	295,84	100,45	788,9
798,9	302,08	299,59	100,83	798,9
799,8	305,35	299,93	101,81	799,8
798,7	307,53	299,51	102,68	798,7
813,7	308,08	305,14	100,96	813,7
817,0	306,99	306,38	100,20	817,0
799,2	298,81	299,70	99,70	799,2
829,1	309,17	310,91	99,44	829,1
798,6	303,17	299,48	101,23	798,6
			Rata-rata	100,64
			SD	1,11
			KV	1,11

Hasil Uji Keseragaman Kandungan Tablet Formula C Replikasi I

Abs	W sampel (mg)	C sampel (µg/ml)	C teoritis (µg/ml)	Kadar (%)
0,547	789,9	294,99	296,21	99,59
0,552	787,7	297,72	295,39	100,79
0,548	807,8	295,54	302,93	97,56
0,550	802,2	296,63	300,83	98,60
0,555	799,9	299,35	299,96	99,80
0,544	798,2	293,35	299,33	98,01
0,556	799,9	299,90	299,96	99,98
0,554	799,6	298,81	299,85	99,65
0,550	789,9	296,63	296,21	100,14
0,557	803,1	300,44	301,16	99,76
			Rata-rata	99,39
			SD	1,01
			KV	1,01

Hasil Uji Keseragaman Kandungan Tablet Formula C Replikasi II

Abs	W sampel (mg)	C sampel (µg/ml)	C teoritis (µg/ml)	Kadar (%)
0,549	804,5	296,082	301,688	98,14
0,552	798,2	297,718	299,325	99,46
0,547	800,2	294,991	300,075	98,31
0,555	809,3	299,354	303,488	98,64
0,547	798,3	294,991	299,363	98,54
0,548	788,6	295,537	295,725	99,94
0,544	797,6	293,355	299,100	98,08
0,555	809,0	299,354	303,375	98,67
0,554	798,2	298,809	299,325	99,83
0,555	800,0	299,354	300,000	99,78
			Rata-rata	98,94
			SD	0,74
			KV	0,74

Hasil Uji Keseragaman Kandungan Tablet Formula C Replikasi III

Abs	W sampel (mg)	C sampel (µg/ml)	C teoritis (µg/ml)	Kadar (%)
0,547	799,2	294,99	299,70	98,43
0,545	793,0	293,90	297,38	98,83
0,554	789,9	298,81	296,21	100,88
0,555	803,1	299,35	301,16	99,40
0,547	803,2	294,99	301,20	97,94
0,539	787,5	290,63	295,31	98,41
0,548	809,1	295,54	303,41	97,40
0,552	799,4	297,72	299,78	99,31
0,545	789,5	293,90	296,06	99,27
0,557	805,2	300,44	301,95	99,50
			Rata-rata	98,94
			SD	0,97
			KV	0,98

Hasil Uji Keseragaman Kandungan Tablet Formula D Replikasi I

Abs	W sampel (mg)	C sampel (µg/ml)	C teoritis (µg/ml)	Kadar (%)
0,549	799,7	296,08	299,89	98,73
0,551	804,1	297,17	301,54	98,55
0,551	799,8	297,17	299,93	99,08
0,562	787,5	303,17	295,31	102,66
0,568	809,6	306,44	303,60	100,94
0,548	799,7	295,54	299,89	98,55
0,544	788,2	293,35	295,58	99,25
0,550	798,9	296,63	299,59	99,01
0,552	796,2	297,72	298,58	99,71
0,556	798,6	299,90	299,48	100,14
			Rata-rata	99,66
			SD	1,30
			KV	1,30

Hasil Uji Keseragaman Kandungan Tablet Formula D Replikasi II

Abs	W sampel (mg)	C sampel (µg/ml)	C teoritis (µg/ml)	Kadar (%)
0,557	798,6	300,44	299,48	100,32
0,556	789,9	299,90	296,21	101,24
0,550	799,3	296,63	299,74	98,96
0,561	784,3	302,63	294,11	102,89
0,559	799,2	301,54	299,70	100,61
0,558	789,6	300,99	296,10	101,65
0,560	788,1	302,08	295,54	102,21
0,562	788,9	303,17	295,84	102,48
0,559	800,0	301,54	300,00	100,51
0,563	809,2	303,72	303,45	100,09
			Rata-rata	101,10
			SD	1,22
			KV	1,21

Hasil Uji Keseragaman Kandungan Tablet Formula D Replikasi III

Abs	W sampel (mg)	C sampel (µg/ml)	C teoritis (µg/ml)	Kadar (%)
0,552	788,6	297,72	295,73	100,67
0,556	803,1	299,90	301,16	99,58
0,553	799,4	298,26	299,78	99,50
0,561	788,6	302,63	295,73	102,33
0,559	806,2	301,54	302,33	99,74
0,558	798,7	300,99	299,51	100,49
0,552	799,2	297,72	299,70	99,34
0,562	789,6	303,17	296,10	102,39
0,559	801,3	301,54	300,49	100,35
0,563	789,6	303,72	296,10	102,57
			Rata-rata	100,70
			SD	1,28
			KV	1,27

LAMPIRAN C

HASIL PENETAPAN KADAR TABLET LIKUISOLID IBUPROFEN

Formula	Rep	Absorbansi	Csampel (µg/ml)	Cteoritis (µg/ml)	Kadar (%)	Rata-rata ± SD	KV
A	I	0,553	298,26	300,11	99,38	100,30 ± 0,82	0,82
	II	0,559	301,54	299,96	100,52		
	III	0,562	303,17	300,23	100,98		
B	I	800,8	0,551	297,17	300,30	98,64 ± 0,38	0,39
	II	799,7	0,549	296,08	299,89		
	III	795,0	0,543	292,81	298,13		
C	I	795,6	0,543	292,81	298,35	98,64 ± 0,56	0,57
	II	795,4	0,545	293,90	298,28		
	III	799,9	0,552	297,72	299,96		
D	I	799,7	0,553	298,26	299,89	98,58 ± 0,77	0,78
	II	796,3	0,544	293,35	298,61		
	III	796,5	0,543	292,81	298,69		0,82

LAMPIRAN D

HASIL UJI DISOLUSI TABLET LIKUISOLID IBUPROFEN

FORMULA A

Rep	t (menit)	A	C (µg/ml)	Wt (mg)	%Obat terlepas	AUC (mg menit)
I	10	0,224	118,83	106,9	53,31	534,74
	20	0,249	132,47	119,2	59,43	1130,84
	30	0,275	146,65	132,0	65,79	1256,01
	45	0,330	176,64	159,0	79,25	2182,20
	60	0,347	185,91	167,3	83,41	2447,26
						7551,06
II	10	0,225	119,38	107,4	53,56	537,20
	20	0,251	133,56	120,2	59,92	1138,21
	30	0,278	148,28	133,5	66,53	1268,28
	45	0,329	176,1	158,5	79,01	2189,57
	60	0,349	187,0	168,3	83,90	2450,94
						7584,19
III	10	0,223	118,29	106,5	53,07	532,29
	20	0,247	131,38	118,2	58,94	1123,48
	30	0,279	148,83	133,9	66,77	1260,92
	45	0,325	173,92	156,5	78,03	2178,52
	60	0,343	183,73	165,4	82,43	2414,13
						7509,34

FORMULA B

Rep	t (menit)	A	C (µg/ml)	Wt (mg)	%Obat terlepas	AUC (mg menit)
I	10	0,250	133,01	119,7	59,93	598,6
	20	0,301	160,83	144,7	72,47	1322,3
	30	0,321	171,73	154,6	77,38	1496,5
	45	0,356	190,82	171,7	85,98	2447,3
	60	0,362	194,10	174,7	87,46	2598,2
						8462,8
II	10	0,255	135,74	122,2	61,16	610,8
	20	0,308	164,64	148,2	74,19	1351,7
	30	0,320	171,19	154,1	77,14	1511,2
	45	0,350	187,55	168,8	84,51	2421,5
	60	0,362	194,10	174,7	87,46	2576,1
						8471,4
III	10	0,254	135,19	121,7	60,92	608,4
	20	0,308	164,64	148,2	74,19	1349,3
	30	0,326	174,46	157,0	78,61	1526,0
	45	0,356	190,82	171,7	85,98	2465,7
	60	0,365	195,73	176,2	88,19	2609,2
						8558,5

FORMULA C

Rep	t (menit)	A	C (µg/ml)	Wt (mg)	%Obat terlepas	AUC (mg menit)
I	10	0,278	148,28	133,5	66,53	1449,9
	20	0,325	173,92	156,5	78,03	1616,8
	30	0,346	185,37	166,8	83,17	1739,5
	45	0,375	201,19	181,1	90,26	2741,8
	60	0,382	205,00	184,5	91,98	1383,8
						8931,7
II	10	0,279	148,83	133,9	66,77	1459,7
	20	0,328	175,55	158,0	78,76	1624,1
	30	0,346	185,37	166,8	83,17	1739,5
	45	0,375	201,19	181,1	90,26	2738,1
	60	0,381	204,46	184,0	91,73	1380,1
						8941,5
III	10	0,278	148,28	133,5	66,53	1457,3
	20	0,328	175,55	158,0	78,76	1624,1
	30	0,346	185,37	166,8	83,17	1739,5
	45	0,375	201,19	181,1	90,26	2734,4
	60	0,380	203,91	183,5	91,49	1376,4
						8931,7

FORMULA D

Rep	t (menit)	A	C (µg/ml)	Wt (mg)	%obat terlepas	AUC (mg menit)
I	10	0,290	154,83	139,3	69,46	1516,2
	20	0,34	182,10	163,9	81,70	1688,0
	30	0,360	193,00	173,7	86,59	1798,4
	45	0,385	206,64	186,0	92,71	2804,4
	60	0,389	208,82	187,9	93,69	1409,5
						9216,4
II	10	0,297	158,65	142,8	71,18	1521,1
	20	0,335	179,37	161,4	80,47	1675,7
	30	0,360	193,00	173,7	86,59	1803,3
	45	0,387	207,73	187,0	93,20	2815,4
	60	0,390	209,37	188,4	93,93	1413,2
						9228,7
III	10	0,290	154,83	139,3	69,46	1503,9
	20	0,335	179,37	161,4	80,47	1680,6
	30	0,362	194,10	174,7	87,08	1813,1
	45	0,389	208,82	187,9	93,69	2833,8
	60	0,393	211,00	189,9	94,67	1424,3
						9255,7

LAMPIRAN E

CONTOH PERHITUNGAN

Contoh perhitungan indeks kompresibilitas dan *Hausner ratio*:

Formula A :

Berat gelas = 111,29 g (W1)

Berat gelas + granul = 148,3 g (W2)

V1 = 100 ml

V2 = 84 ml

Bj nyata $= \frac{(W_2 - W_1)}{V_1} = \frac{(148{,}3-111{,}29)}{100} = 0{,}3701$

Bj mampat $= \frac{(W_2 - W_1)}{V_2} = \frac{(148{,}3-111{,}29)}{84} = 0{,}4460$

% kompresibilitas $= \left(1 - \frac{Bj.nyata}{Bj\ mampat}\right) x100\% = 16\%$

Formula A:

HR = $\frac{Bj\ mampat}{Bj\ nyata} = 1{,}19$

Contoh perhitungan akurasi & presisi:

%	Bahan aktif (mg)	Matriks (mg)	Dapar fosfat 0,2M pH7,2 Ad	Pipet	Dapar fosfat 0,2M pH7,2 Ad	Konsentrasi (ppm)
100	200	600	100	1,5	10	300

Absorbansi = 0,558 → y = 0,0018x + 0,0061

Konsentrasi sebenarnya = 300,99 ppm

Konsentrasi teoritis = 300,45 ppm

% perolehan kembali = (konsentrasi sebenarnya / konsentrasi teoritis) x 100%

= (300,99/ 300,45) x 100%

= 100,18%

Untuk menghitung % KV = $\frac{SD}{\bar{X}} x100\%$

= $\frac{1,01}{99,83} x\ 100\%$

= 1,01 %

Contoh perhitungan % obat terlepas:

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

Formula A replikasi 1 pada t = 10 menit

% obat terlepas = $\frac{106,9}{\frac{100,30}{100} \times 200} \times 100\% = 53,31\%$

Contoh perhitungan AUC pada disolusi:

Rumus:

Formula A replikasi 1

Wtn-1 = 106,9

Wtn = 119,2

tn = 20 menit

tn-1 = 10 menit

AUC = $\frac{1006,9 + 119,2}{2} x(20 - 10)$

= 534,74

Luas □ = 60 x penetapan kadar x dosis

= 60 x 100,30% x 200 mg

= 12035,6

% ED Formula A replikasi 1= (∑ AUC / luas □) x 100%

= (7551,06/12035,6) x 100%

= 62,74 %

LAMPIRAN F

HASIL UJI STATISTIK KEKERASAN TABLET LIKUISOLID IBUPROFEN ANTAR FORMULA

Oneway

Descriptives

Kekerasan

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Formula A	3	7.2900	1.45523	.84018	3.6750	10.9050	5.61	8.16
Formula B	3	8.1767	.24379	.14075	7.5711	8.7823	7.90	8.36
Formula C	3	7.7567	.41621	.24030	6.7227	8.7906	7.36	8.19
Formula D	3	7.3600	.89168	.51481	5.1449	9.5751	6.62	8.35
Total	12	7.6458	.84197	.24306	7.1109	8.1808	5.61	8.36

Test of Homogeneity of Variances

Kekerasan

Levene Statistic	df1	df2	Sig.
4.957	3	8	.031

ANOVA

Kekerasan

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.507	3	.502	.639	.611
Within Groups	6.291	8	.786		
Total	7.798	11			

F hitung = 0,639 < F tabel$_{0,05(3,8)}$ = 4,07, maka H_0 diterima dan tidak ada perbedaan bermakna antar formula.

LAMPIRAN G

HASIL UJI STATISTIK KERAPUHAN TABLET LIKUISOLID IBUPROFEN ANTAR FORMULA

Oneway

Descriptives

Kerapuhan

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Formula A	3	.4400	.07000	.04041	.2661	.6139	.37	.51
Formula B	3	.1067	.04041	.02333	.0063	.2071	.06	.13
Formula C	3	.1433	.03215	.01856	.0635	.2232	.12	.18
Formula D	3	.1433	.04041	.02333	.0429	.2437	.12	.19
Total	12	.2083	.14640	.04226	.1153	.3014	.06	.51

Test of Homogeneity of Variances

Kerapuhan

Levene Statistic	df1	df2	Sig.
.500	3	8	.693

ANOVA

Kerapuhan

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.217	3	.072	31.502	.000
Within Groups	.018	8	.002		
Total	.236	11			

Karena F hitung = 31.502 > F tabel$_{0,05(3,8)}$ = 4,07 ; maka H_0 ditolak dan ada perbedaan yang bermakna antar formula.

Multiple Comparisons

Kerapuhan

LSD

(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Formula A	Formula B	.33333*	.03916	.000	.2430	.4236
	Formula C	.29667*	.03916	.000	.2064	.3870
	Formula D	.29667*	.03916	.000	.2064	.3870
Formula B	Formula A	-.33333*	.03916	.000	-.4236	-.2430
	Formula C	-.03667	.03916	.376	-.1270	.0536
	Formula D	-.03667	.03916	.376	-.1270	.0536
Formula C	Formula A	-.29667*	.03916	.000	-.3870	-.2064
	Formula B	.03667	.03916	.376	-.0536	.1270
	Formula D	.00000	.03916	1.000	-.0903	.0903
Formula D	Formula A	-.29667*	.03916	.000	-.3870	-.2064
	Formula B	.03667	.03916	.376	-.0536	.1270
	Formula C	.00000	.03916	1.000	-.0903	.0903

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

LAMPIRAN H

HASIL UJI STATISTIK WAKTU HANCUR TABLET LIKUISOLID IBUPROFEN ANTAR FORMULA

Oneway

Descriptives

Waktu_hancur

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Formula A	3	1.4800	.25515	.14731	.8462	2.1138	1.29	1.77
Formula B	3	1.3167	.11930	.06888	1.0203	1.6130	1.22	1.45
Formula C	3	1.4867	.14048	.08110	1.1377	1.8356	1.34	1.62
Formula D	3	1.2100	.03606	.02082	1.1204	1.2996	1.17	1.24
Total	12	1.3733	.18168	.05245	1.2579	1.4888	1.17	1.77

Test of Homogeneity of Variances

Waktu_hancur

Levene Statistic	df1	df2	Sig.
3.335	3	8	.077

ANOVA

Waktu_hancur

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.162	3	.054	2.157	.171
Within Groups	.201	8	.025		
Total	.363	11			

F hitung = 2.157 < F tabel$_{0,05(3,8)}$ = 4,07, maka H_0 diterima dan tidak ada perbedaan bermakna antar formula.

LAMPIRAN I

HASIL UJI STATISTIK PENETAPAN KADAR TABLET LIKUISOLID IBUPROFEN ANTAR FORMULA

Descriptives

Penetapan_Kadar

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Formula A	3	100.293	.8237	.4755	98.247	102.339	99.38	100.98
Formula B	3	98.636	.3787	.2186	97.695	99.577	98.22	98.96
Formula C	3	98.640	.5631	.3251	97.241	100.038	98.14	99.25
Formula D	3	98.576	.7721	.4458	96.658	100.494	98.03	99.46
Total	12	99.036	.9436	.2724	98.437	99.636	98.03	100.98

Test of Homogeneity of Variances

Penetapan_Kadar

Levene Statistic	df1	df2	Sig.
1.008	3	8	.438

ANOVA

Penetapan_Kadar

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	6.324	3	2.108	3.651	.033
Within Groups	3.471	8	.434		
Total	9.795	11			

F hitung = 3.651 < F tabel$_{0,05(3,8)}$ = 4,07, maka H_0 diterima dan tidak ada perbedaan bermakna antar formula.

LAMPIRAN J

HASIL UJI STATISTIK DISOLUSI BERDASARKAN %ED_{60} TABLET LIKUISOLID IBUPROFEN ANTAR FORMULA

Descriptives

% ED_{60}

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Formula A	3	62.7133	.31086	.17947	61.9411	63.4855	62.39	63.01
Formula B	3	70.9033	.44061	.25438	69.8088	71.9979	70.61	71.41
Formula C	3	74.5967	.04619	.02667	74.4819	74.7114	74.57	74.65
Formula D	3	77.2500	.16371	.09452	76.8433	77.6567	77.11	77.43
Total	12	71.3658	5.72922	1.65388	67.7257	75.0060	62.39	77.43

Test of Homogeneity of Variances

% ED_{60}

Levene Statistic	df1	df2	Sig.
3.655	3	8	.063

ANOVA

% ED_{60}

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	360.424	3	120.141	1503.176	.000
Within Groups	.639	8	.080		
Total	361.063	11			

F hitung = 1503,176 > F $tabel_{0,05(3,8)}$ = 4,07, maka H_0 ditolak dan ada perbedaan bermakna antar formula.

Multiple Comparisons

% ED_{60}

LSD

(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Formula A	Formula B	-8.19000*	.23083	.000	-8.7223	-7.6577
	Formula C	-11.88333*	.23083	.000	-12.4156	-11.3510
	Formula D	-14.53667*	.23083	.000	-15.0690	-14.0044
Formula B	Formula A	8.19000*	.23083	.000	7.6577	8.7223
	Formula C	-3.69333*	.23083	.000	-4.2256	-3.1610
	Formula D	-6.34667*	.23083	.000	-6.8790	-5.8144
Formula C	Formula A	11.88333*	.23083	.000	11.3510	12.4156
	Formula B	3.69333*	.23083	.000	3.1610	4.2256
	Formula D	-2.65333*	.23083	.000	-3.1856	-2.1210
Formula D	Formula A	14.53667*	.23083	.000	14.0044	15.0690
	Formula B	6.34667*	.23083	.000	5.8144	6.8790
	Formula C	2.65333*	.23083	.000	2.1210	3.1856

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

LAMPIRAN K

HASIL UJI STATISTIK KONSTANTA LAJU DISOLUSI TABLET LIKUISOLID IBUPROFEN ANTAR FORMULA

Descriptives

K_disolusi

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Formula A	3	.054367	.0021595	.0012468	.049002	.059731	.0521	.0564
Formula B	3	.077100	.0071547	.0041308	.059327	.094873	.0701	.0844
Formula C	3	.085733	.0033561	.0019376	.077396	.094070	.0825	.0892
Formula D	3	.093467	.0038136	.0022018	.083993	.102940	.0903	.0977
Total	12	.077667	.0157742	.0045536	.067644	.087689	.0521	.0977

Test of Homogeneity of Variances

K_disolusi

Levene Statistic	df1	df2	Sig.
1.081	3	8	.411

ANOVA

K_disolusi

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	.003	3	.001	42.024	.000
Within Groups	.000	8	.000		
Total	.003	11			

F hitung = 42,024 > F tabel$_{0,05(3,8)}$ = 4,07, maka H_0 ditolak dan ada perbedaan bermakna antar formula.

Multiple Comparisons

K_disolusi

LSD

(I) Formula	(J) Formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Formula A	Formula B	-.0227333*	.0036892	.000	-.031241	-.014226
	Formula C	-.0313667*	.0036892	.000	-.039874	-.022859
	Formula D	-.0391000*	.0036892	.000	-.047607	-.030593
Formula B	Formula A	.0227333*	.0036892	.000	.014226	.031241
	Formula C	-.0086333*	.0036892	.047	-.017141	-.000126
	Formula D	-.0163667*	.0036892	.002	-.024874	-.007859
Formula C	Formula A	.0313667*	.0036892	.000	.022859	.039874
	Formula B	.0086333*	.0036892	.047	.000126	.017141
	Formula D	-.0077333	.0036892	.069	-.016241	.000774
Formula D	Formula A	.0391000*	.0036892	.000	.030593	.047607
	Formula B	.0163667*	.0036892	.002	.007859	.024874
	Formula C	.0077333	.0036892	.069	-.000774	.016241

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

LAMPIRAN L

HASIL IBUPROFEN TERLARUT DALAM PEG 400 DAN *AQUADEST* SELAMA 24 JAM

Dalam Aquadest

W sampel (gram)	Abs.	C s (µg/ml)	Cs x FP (µg/ml)	Rata-rata (µg/ml)
9,8812	0,072	35,93	179,67	
9,2858	0,063	31,03	155,13	166,94
9,7473	0,067	33,21	166,03	

Dalam PEG 400

W sampel (gram)	Abs.	C s (µg/ml)	Cs x FP (µg/ml)	Rata-rata (µg/ml)
11,6244	0,660	356,61	356610	
11,7030	0,673	363,70	363700	350980
11,5228	0,616	332,62	332629	

LAMPIRAN M

HASIL UJI KURVA BAKU

REPLIKASI I

KONSENTRASI	ABSORBANSI	X^2	Y^2	XY
75,45	0,129	5692,703	0,0166	0,0166
100,6	0,178	10120,36	0,0317	0,0317
201,2	0,359	40481,44	0,1289	0,1289
301,8	0,563	91083,24	0,3170	0,3170
402,4	0,728	161925,8	0,5300	0,5300
503	0,928	253009	0,8612	0,8612

REPLIKASI II

KONSENTRASI	ABSORBANSI	X^2	Y^2	XY
75,38	0,144	5682,144	0,0207	10,8547
100,5	0,184	10100,25	0,0338	18,492
201	0,378	40401	0,1429	75,978
301,5	0,568	90902,25	0,3226	171,252
402	0,742	161604	0,5506	298,284
502,5	0,923	252506,3	0,8519	463,8075

REPLIKASI III

KONSENTRASI	ABSORBANSI	X^2	Y^2	XY
75,3	0,169	5670,09	0,0286	12,7257
100,4	0,211	10080,16	0,0445	21,1844
200,8	0,386	40320,64	0,1490	77,5088
301,2	0,571	90721,44	0,3260	171,9852
401,6	0,747	161282,6	0,5580	299,9952
502	0,91	252004	0,8281	256,82

	ΣX^2	ΣXY	ΣY^2	**N**	**Residual SS**	**RDF**
Replikasi 1	562312,5	1029,5153	1,8853	6	$4{,}45.10^{-4}$	3
Replikasi 2	561195,9	1038,6682	1,9226	6	$2{,}13.\ 10^{-4}$	3
Replikasi 3	560078,9	1040,2193	1,9342	6	$2{,}266.\ 10^{-3}$	3
Pooled regression					$2{,}91.\ 10^{-3}$	9
Common regression	1683587	3108,4028	5,7422		$3{,}13.10^{-3}$	11

F hitung = 0,3287 < $Ftabel_{0,05(3,9)}$= 4,26, karena F hitung lebih kecil dari F tabel maka tidak ada perbedaan bermakna antar persamaan regresi.

LAMPIRAN N

SERTIFIKAT ANALISIS IBUPROFEN

Shasun Chemicals And Drugs Ltd.

IBUPROFEN BP/Ph.Eur. (SN Grade)
CERTIFICATE OF ANALYSIS

Nature of Packing	: Sea Worthy Fibre Drum	Analytical Report No.	: FPIBU0607674
Sample Taken By	: S.Sivakumar	Batch Number	: IBU0607674
Date of Manufacture	: July 2006	Date of Analysis	: 25-07-2006
Expiry Date	: June 2011	Date of Report	: 25-07-2006
Batch Volume(Qty)	: 3000 Kg.	Manufactured By	: Shasun Chemicals And Drugs Limited, Pondicherry.

S.No	TESTS	RESULTS	LIMITS
1.	Appearance	White crystalline powder	White, crystalline powder or colourless crystals
2.	Solubility	Complies	Freely soluble in acetone, in methanol and in methylene chloride. Dissolves in dilute solutions of alkali hydroxides and carbonates. Practically insoluble in water
3.	Clarity and colour of solution	Complies	10 % w/v solution (5g in 50 mL of the solution) in methanol should be clear and colourless
4.	Identification a]By IR	Conforms	The IR spectrum of sample should be concordant with the spectrum of Ibuprofen RS
	b]By UV	1.24 1.03	The ratio of absorbance at the max.at 264 nm to that at 258 nm is 1.20 to 1.30 The ratio of absorbance at the max at 272 nm to that at 258 nm is 1.00 to 1.10
	c] By TLC	Complies	Principal spot should be similar in position, colour and size compared to Ibuprofen RS
	d]Melting point	76.1 °C	75.0°C to 78.0 °C
5.	Optical rotation	0.00 °	- 0.05° to +0.05°
6.	Heavy metals	LT 10 PPM	NMT 10 PPM
7.	Related substances (by HPLC) a] 2-(4-Isobutyryl Phenyl) Propanoic Acid (Impurity J) b] 2-(4-Butyl phenyl)propanoic acid (Impurity B) c]4-Isobutylacetophenone (Impurity E) d] Any unidentified impurity e] Total impurities (Apart from impurity B)	0.06 % (Area %) Not Detected Not Detected 0.04 % (Area %) 0.14 % (Area %)	NMT 0.20 % (Area %) NMT 0.30 % (w/w) NMT 0.30 % (Area %) NMT 0.10 % (Area %) NMT 0.50 % (Area %)
8.	Sulphated ash	0.04 % (w/w)	NMT 0.10 % (w/w)
9.	Loss on drying	0.10 % (w/w)	NMT 0.50 % (w/w)
10.	Assay (dry basis)	99.8 % (w/w)	98.5 % -101.0 % (w/w)

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Shasun Road, Periyakalapet, Pondicherry - 605 014. India
Ph : 91-413-2655202, 2655156, 2655157, 2655441, 2655442
2655827, 2655828, 2655829, 2655830
Fax : 091 - 413 - 2655154, e-mail : shapondy@md4.vsnl.net.in
shapdy@shasun.com

Shasun Chemicals And Drugs Ltd.

IBUPROFEN BP/Ph.Eur. (SN Grade)
CERTIFICATE OF ANALYSIS

Nature of Packing	: Sea Worthy Fibre Drum	Analytical Report No.	: FPIBU0607674
Sample Taken By	: S.Sivakumar	Batch Number	: IBU0607674
Date of Manufacture	: July 2006	Date of Analysis	: 25-07-2006
Expiry Date	: June 2011	Date of Report	: 25-07-2006
Batch Volume(Qty)	: 3000 Kg.	Manufactured By	: Shasun Chemicals And Drugs Limited, Pondicherry.

S.No	TESTS	RESULTS	LIMITS
ADDITIONAL TESTS			
a.	Bulk Density		
	Untapped	0.45 g/mL	0.35- 0.55 g/mL
	Tapped(1250 tappings)	0.64 g/mL	0.50- 0.75 g/mL
b.	Mean Particle Size	76.4 microns	60.0 – 130.0 microns
c.	Residual solvents		
	i) Acetone	17 PPM	NMT 100 PPM
	ii) Isopropyl alcohol	LT 0.89 PPM	NMT 250 PPM
	iii) Hexanes	29 PPM	NMT 290 PPM
	iv) Tri chloro ethylene	LT 0.19 PPM	NMT 80 PPM
	v) Methanol φ	Not Detected	NMT 500 PPM

OPINION: The Material Complies As Per **BP/Ph.Eur.** Standard.

Note : NMT = Not more than NLT = Not less than LT = Less than

φ NOT USED IN THE PROCESS, TEST INCLUDED FOR COMPLIANCE WITH CERTIFICATE OF SUITABILITY.

Compiled by	Reviewed by	Approved by
Date : 25/07/2006	Date : 25/07/2006	Date : 25/7/2006
(E.Senthilkumar)	(S.Rajasudalaimuthu)	(N.Vinayagaperumal)
Senior Chemist	Senior Chemist	Dy.QC-Incharge

SCQC/F-024/F/06

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STATE BANK OF TRAVANCORE * MAIN (CHENNAI)

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2655827, 2655828, 2655829, 2655830
Fax : 091 - 413 - 2655154, e-mail : shapondy@md4.vsnl.net.in
shapdy@shasun.com

LAMPIRAN O

SERTIFIKAT ANALISIS AVICEL PH 102

AsahiKASEI
ASAHI KASEI CHEMICALS

Date: 08-APR-2011
Issued by manufacturer

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

YOUR NO.: C9HE-11-5298-0012

CERTIFICATE OF ANALYSIS

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

Trade name : CEOLUS®

Grade : PH-102 **Lot No. 2122 (200 bags)**

Manufacturing Date: 05-FEB-2011
Re-evaluation Date: 05-FEB-2014

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	3.5
Water-soluble substances (mg)	NMT 12.5	4.6
Ether-soluble substances (mg)	NMT 5.0	0.1
Conductivity (μ S/cm)	NMT 75	29
Heavy metals (ppm)	NMT 10	NMT 10
Solubility	Passes	Passes
Residue on ignition (%)	NMT 0.1	0.00
Bulk density (g/cm^3)	0.28 - 0.33	0.316
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	0.5
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

P.T. FMC INDONESIA

LAMPIRAN P

SERTIFIKAT ANALISIS MAGNESIUM STEARAT

PETER GREVEN
Partner der Industrie

QUALITÄTSMANAGEMENT

CERTIFICATE OF ANALYSIS

customer: PT BRATACO
contact person:
FAX:
your order-number: PTB0735/V1104 our order-number: 4011746
delivered on: 04.08.2004 quantity: 9000
brand: LIGA MAGNESIUM STEARATE MF-2-V VEGETABLE charge-no. C447176
manufacturing date: 2004-07-19 expiry date: 2006-07-19

product is in accordance with the USP27/NF22/BP2003/Ph.Eur 4rd ed./DAB10/JP 14th. ed./FCC 5th. ed.

parameter	unit	method	result
ntification A	**oC**	Ph.Eur	59
stion A	**metal reaction**	USP/NF	passes test
tification B	**retention time GC**	USP/NF	retentions match
idity or	**ml 0,01N HCl**	Ph.Eur	<0,5
alinity	**ml 0.01 N NaOH**	Ph.Eur	<0,5
avy metals as Pb	**ppm**	JP	<20
ad	**ppm**	BAE 300-B	<1
dmium	**ppm**	BAE 300-B	<1
ckel	**ppm**	BAE 300-B	<1
hloride	**%**	Ph.Eur	<0,1
ulfate	**%**	Ph.Eur	<0,5
id value of the fatty acid	**mg KOH/g**	Ph.Eur	204,8
lative content of stearic acid	**%**	USP/NF	65,1
l. cont. of stearic and palmetic acid	**%**	USP/NF	98,9
robic microbial count	**cfu/g**	USP/NF	<10
lds & Yeasts	**cfu/g**	USP/NF	105
cherichia coli	**cfu/g**	USP/NF	absent
nella Species	**cfu/g**	USP/NF	absent
ganic volatile impurties		USP/NF	meets USP/NF
s on drying	**%**	BAE 600	3,9
gnesium content	**%**	BAE 200 o	4,7
e fatty acid	**%**	BAE 400	0,6
ve rosidue at 200 mesh	**%**	BAE 605	0,2
k donsity tapped	**g/ml**	BAE 611a	0,32
ecific surface area BET	**qm/g**	USP/NF	10,0
ntamination		BAE 601	in accordance

Venlo, 27.08.04

datas of the obove mentioned delivery are based upon careful test according to the guidlines of our lity assurance system. They do not release the customer from entry control. Besides we do not garantee zial properties for concrete applications.
certificate was issued by EDV and does not bear a signature.

BRATACO
SUPPLIER
MANUFACTURER
DISTRIBUTOR

LAMPIRAN Q

SERTIFIKAT ANALISIS *SODIUM STARCH GLYCOLATE*

YUNG ZIP CHEMICAL IND. CO., LTD.
59, Yu Shih Road
Youth Industrial District
Tachia, Taiwan, 437
R. O. C.
TEL: 886-4-26818780, 26811344
FAX: 886-4-26812911

CERTIFICATE OF ANALYSIS

DST

(Sodium Starch Glycolate)

Lot No.: SSG0010162 **Mfg. Date:** Jun. 20, 2010

Analysis Following: BP2010/EP 6.0 **Retest Date:** Jun. 19, 2013

ITEMS	SPECIFICATIONS	RESULTS
Appearance	A white or almost white, fine, free-flowing powder, very hygroscopic	A white free-flowing powder
Examined under microscope	Conformed to the test	
Solubility	Practically insoluble in methylene chloride. A translucent suspension in water	Conformed
Identification		Conformed
A. pH	Between 5.5 and 7.5	5.7
B. Suspension test	Suspension forms settles after standing.	Conformed
C. Iodine test	The solution becomes blue to violet.	Conformed
D. Sodium test	A dense white precipitate is formed.	Conformed
Appearance of solution S1	The opalescence is not more pronounced than reference suspension I.	Conformed
Clear		
Colorless	Not more intensely colored than reference solution B_9.	Conformed
Sodium chloride	Not more than 7.0 %	6.1 %
Sodium glycolate	Not more than 2.0 %	1.7 %
Iron	Not more than 20 ppm	< 20 ppm
Heavy metals	Not more than 20 ppm	< 20 ppm
Loss on drying	Not more than 10.0 %	2.9 %
Microbial contamination	Absence of *Salmonella* species and *Escherichia Coli*	Negative
Assay	2.8 % ~ 4.2 % of sodium	2.9 %

Conclusion : Passed

LAMPIRAN R

TABEL UJI R

Lampiran 1

TABEL NILAI KOEFISIEN KORELASI "r" PRODUCT MOMENT TARAF SIGNIFIKAN 5% DAN 1%

df	TARAF SIGNIFIKAN 5%	TARAF SIGNIFIKAN 1%	df	TARAF SIGNIFIKAN 5%	TARAF SIGNIFIKAN 1%
1	0,997	1,000	24	0,388	0,496
2	0,950	0,990	25	0,381	0,487
3	0,878	0,959	26	0,374	0,478
4	0,811	0,917	27	0,367	0,470
5	0,754	0,874	28	0,361	0,463
6	0,707	0,834	29	0,355	0,456
7	0,666	0,798	30	0,349	0,449
8	0,632	0,765	35	0,325	0,418
9	0,602	0,735	40	0,304	0,393
10	0,576	0,708	45	0,288	0,372
11	0,553	0,684	50	0,273	0,354
12	0,532	0,661	60	0,250	0,325
13	0,514	0,641	70	0,232	0,302
14	0,497	0,623	80	0,217	0,283
15	0,482	0,606	90	0,205	0,267
16	0,468	0,590	100	0,195	0,254
17	0,456	0,575	125	0,174	0,228
18	0,444	0,561	150	0,159	0,208
19	0,433	0,549	200	0,138	0,181
20	0,423	0,537	300	0,113	0,148
21	0,413	0,526	400	0,098	0,128
22	0,404	0,515	500	0,088	0,115
23	0,369	0,505	1000	0,062	0,081

Sumber : Hartono, 2004

LAMPIRAN S

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	5961	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	5,53
	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	2,96	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	2,26	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

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

Sumber : Hartono, 2004