LAMPIRAN A

HASIL PERHITUNGAN PEROLEHAN KEMBALI AMILUM KULIT PISANG AGUNG

Jenis Perhitungan	Hasil Uji Rep. Serbuk Amilum		
	A1	**A2**	**A3**
Rendemen (%)	1,22	1,20	1,34

Hasil RendemenSerbuk Amilum (A1)

Berat kulit pisang = 50 kg

Serbuk amilum yang diperoleh = 0,61 kg

% rendemen = (0,61: 50) x 100% = 1,22 %

Hasil RendemenSerbuk Amilum (A2)

Berat kulit pisang = 75 kg

Serbuk amilum yang diperoleh = 0,90 kg

% rendemen = (0,90 : 75) x 100% = 1,20 %

Hasil RendemenSerbuk Amilum (A3)

Berat kulit pisang = 44 kg

Serbuk amilum yang diperoleh = 0,59 kg

% rendemen = (0,59 : 44) x 100% = 1,34 %

LAMPIRAN B

HASIL UJI KUALITATIF AMILUM KULIT PISANG AGUNG

Replikasi	Uji/Pemeriksaan	Hasil Pemeriksaan
A1		Warna Ungu Kebiruan
A2	Uji Kualitatif	Warna Ungu Kebiruan
A3	(Identifikasi Amilum dengan Iodin)	Warna Ungu Kebiruan

LAMPIRAN C

HASIL UJI PENDAHULUAN AMILUM KULIT PISANG AGUNG

Hasil uji pendahuluan amilum kulit pisang agung.

Jenis Pengujian	Hasil Uji Rep. Serbuk Amilum			Spesifikasi
	A1	**A2**	**A3**	
Organoleptik **Bentuk** **Warna** **Rasa** **Bau**	Serbuk kecoklatan Tidak berasa Tidak berbau	Serbuk kecoklatan Tidak berasa Tidak berbau	Serbuk kecoklatan Tidak berasa Tidak berbau	Serbuk Putih Tidak berbau Tidak berasa (Departemen Kesehatan RI, 1995**)**
Makroskopik (µm)	4,49 ± 0,79	4,48 ±0,80	4,26 ± 0,74	2-100µm (Rowe, Shekey and Owen, 2006)
Mikroskopik	Susunan tunggal Terdapat lamela	Susunan tunggal Terdapat lamela	Susunan tunggal Terdapat lamela	Susunan tunggal Terdapat hilus/lamela
pH	6,3	6,4	5,6	(Departemen Kesehatan RI, 1995**)** 4-7 (Suryani, Musdja dan Suhartini, 2013)
Kelembaban (%)	6,79	7,56	8,02	< 20 (Rowe, Sheskey and Quinn, 2009)
Viskositas	Viskositas musilago amilum kulit pisang agung ±2x viskositas musilago amilum manihot	Viskositas musilago amilum kulit pisang agung ±2x viskositas musilago amilum manihot	Viskositas musilago amilum kulit pisang agung ±2x viskositas musilago amilum manihot	Viskositas amilum kulit pisang agung lebih besar daripada viskositas amilum manihot

LAMPIRAN D

HASIL UJI VISKOSITAS AMILUM

Hari	Amilum Manihot (2,5%)			Amilum Kulit Pisang (2,5%)			Viskositas Amilum Kulit Pisang : Manihot
	rpm	%	Cp	Rpm	%	Cp	
1	1,5	12,2	686,9	1,5	34,5	1380	2,01
2	1,5	14,0	731,8	1,5	39,3	1572	2,15
3	1,5	16,7	758,2	1,5	41,9	1676	2,21

Hari	Amilum Manihot (5%)			Amilum Kulit Pisang (5%)			Viskositas Amilum Kulit Pisang : Manihot
	rpm	%	Cp	Rpm	%	Cp	
1	1,5	43,9	1756	1,5	85,0	3399	1,94
2	1,5	45,2	2008	1,5	94,0	3759	1,87
3	1,5	50,2	2210	1,5	98,8	3951	1,79

LAMPIRAN E

HASIL UJI KEMURNIAN AMILUM KULIT PISANG AGUNG

Jenis Pengujian	Hasil Uji Rep. Serbuk Amilum			Spesifikasi
	A1	**A2**	**A3**	
Susut pengeringan (%)	9,36	13,30	13,14	< 15 (Suryani, Musdja dan Suhartini, 2013)
Kadar abu (%)	1,40	1,06	1,56	< 1 (Suryani, Musdja dan Suhartini, 2013)
Kadar amilosa (%)	36,43	34,38	34,20	17-39% (Rowe, Sheskey, and Owen, 2009).
Derajat putih (°)	46,05	50,63	45,71	95^0 (Suryani, Musdja dan Suhartini, 2013)

LAMPIRAN F

HASIL UJI MAKROSKOPIS SERBUK AMILUM (A1)

Uji distribusi ukuran partikel :

Ditimbang serbuk amilum (A1) = 100,07 gram

Serbuk diayak selama 10 menit

No. *Mesh*	d (µm)	Berat Ayakan (Gram)	Berat Ayakan + Zat A1 (Gram)	Berat Zat A1 (Gram)	% Berat	% FKA	FKA	Nilai Z	% FKB	FKB	Nilai Z
20	850	351,69	353,07	1,38	1,38	1,38	0,0138	-2,20	98,62	0,9862	2,20
40	425	313,36	316,38	3,02	3,02	4,40	0,0440	-1,71	95,60	0,9560	1,71
60	250	289,58	293,56	3,98	3,98	8,38	0,0838	-1,38	91,62	0,9162	1,38
80	180	290,92	297,62	6,70	6,70	15,08	0,1508	-1,03	84,92	0,8492	1,03
100	150	284,23	296,20	11,97	11,97	27,05	0,2705	-0,61	72,95	0,7295	0,61
120	125	291,08	319,43	28,35	28,35	55,39	0,5539	0,14	44,61	0,4461	-0,14
Pan	-	252,32	296,93	44,61	44,61	100,00	1,0000	3,09	0,00	0,0000	-3,09
			Σ	100,01	100,00						

Serbuk amilum (A1).

Kehilangan serbuk = 0,06 % (<0,5%)

ln d *vs* nilai Z dari FKA: a = 4,7807 Distribusi berat:

b = -1,0637Diameter geometris:

d_g 50% = 4,49 μm

r = -0,9305 SD geometris:

σ_g = 0,79

HASIL UJI MAKROSKOPIS SERBUK AMILUM (A2)

Uji distribusi ukuran partikel :

Ditimbang serbuk amilum (A2) = 100,03 gram

Serbuk diayak selama 10 menit

No. *Mesh*	d (μm)	Berat Ayakan (Gram)	Berat Ayakan + Zat A2 (Gram)	Berat Zat A2 (Gram)	% Berat	% FKA	FKA	Nilai Z	% FKB	FKB	Nilai Z
20	850	351,69	352,67	0,98	0,98	0,98	0,0098	-2,33	99,02	0,9902	2,33
40	425	313,36	316,17	2,81	2,81	3,79	0,0379	-1,78	96,21	0,9621	1,78
60	250	289,58	293,46	3,88	3,88	7,67	0,0767	-1,43	92,33	0,9233	1,43
80	180	290,92	297,06	6,14	6,14	13,81	0,1381	-1,09	86,19	0,8619	1,09
100	150	284,23	296,40	12,17	12,17	25,99	0,2599	-0,64	74,01	0,7401	0,64
120	125	291,08	318,92	27,84	27,85	53,84	0,5384	0,10	46,16	0,4616	-0,10
Pan	-	252,32	298,47	46,15	46,16	100,00	1,0000	3,09	0,00	0,0000	-3,09
			Σ	99,97	100,00						

Serbuk amilum (A2).

Kehilangan serbuk = 0,06 % (<0,5%)

ln d *vs* nilai Z dari FKA: a = 4,9704

b = -1,1092

r = -0,9375

Distribusi berat:

Diameter geometris: $d_g 50\% = 4{,}48$ µm

SD geometris: $\sigma_g = 0{,}80$

HASIL UJI MAKROSKOPIS SERBUK AMILUM (A3)

Uji distribusi ukuran partikel :

Ditimbang serbuk amilum (A3) = 100,01 gram

Serbuk diayak selama 10 menit

No. *Mesh*	d (µm)	Berat Ayakan (Gram)	Berat Ayakan + Zat A3 (Gram)	Berat Zat A3 (Gram)	% Berat	% FKA	FKA	Nilai Z	% FKB	FKB	Nilai Z
20	850	351,69	353,20	1,51	1,51	1,51	0,0151	-2,17	98,49	0,9849	2,17
40	425	313,36	316,80	3,44	3,44	4,95	0,0495	-1,65	95,05	0,9505	1,65
60	250	289,58	293,44	3,86	3,86	8,82	0,0882	-1,35	91,18	0,9118	1,35
80	180	290,92	297,84	6,92	6,93	15,74	0,1574	-1,01	84,26	0,8426	1,01
100	150	284,23	294,42	10,19	10,20	25,94	0,2594	-0,65	74,06	0,7406	0,65
120	125	291,08	303,72	12,64	12,65	38,59	0,3859	-0,29	61,41	0,6141	0,29
Pan	-	252,32	313,68	61,36	61,41	100,00	1,0000	3,09	0,00	0,0000	-3,09
			Σ	99,92	100,00						

Serbuk amilum (A3).

% kehilangan serbuk = 0,09 (<0,5%)

ln d *vs* nilai Z dari FKA:	a = 3,8976	Distribusi berat :	
	b = -0,9147	Diameter geometris:	d_g50% = 4,26 µm
	r = -0,9715	SD geometris:	σ_g = 0,74

LAMPIRAN G

HASIL UJI MUTU FISIK AMILUM KULIT PISANG AGUNG

Replikasi	Uji/Pemeriksaan	Hasil Pemeriksaan
	Sudut Diam	Buruk
A1	Carrs Index	25,94 %
	Hausner Ratio	1,35
	Sudut Diam	Buruk
A2	Carrs Index	22,26 %
	Hausner Ratio	1,29
	Sudut Diam	Buruk
A3	Carrs Index	26,97 %
	Hausner Ratio	1,37

LAMPIRAN H

HASIL UJI KELEMBAPAN GARNUL

Formula	Kelembapan								Persyaratan
	F1	**F2**	**F3**	**F4**	**F5**	**F6**	**F7**	**F8**	
Replikasi I	2,95	2,61	2,76	2,75	2,16	2,97	2,36	3,79	2-5 (Ansel, 1989).
Replikasi II	3,12	2,50	2,13	2,75	2,95	3,05	2,86	3,06	
Replikasi III	2,23	2,76	2,04	3,19	4,61	2,65	2,20	2,25	
Rata-Rata	2,77	2,62	2,31	2,90	3,24	2,89	2,47	3,03	
±	±	±	±	±	±	±	±	±	
SD	0,47	0,13	0,39	0,25	0,25	0,21	0,34	0,77	

LAMPIRAN I

HASIL UJI MUTU FISIK GRANUL METFORMIN HCl

Formula	Replikasi	Carr's Index (%)	Persyaratan (%)	Hausner Ratio	Persyaratan (%)
F1	I	13,73	11-15 Baik (Hadisoewignyo dan Fudholi, 2013)	1,16	1,12-1,18 Baik (Hadisoewignyo dan Fudholi, 2013)
	II	12,22		1,14	
	III	13,37		1,16	
	Rata-Rata	13,11		1,15	
	± SD	0,78		0,01	
F2	I	13,63	11-15 Baik (Hadisoewignyo dan Fudholi, 2013)	1,14	1,12-1,18 Baik (Hadisoewignyo dan Fudholi, 2013)
	II	12,64		1,15	
	III	13,65		1,16	
	Rata-Rata	13,31		1,15	
	± SD	0,01		0,01	
F3	I	9,30	<10 Sangat baik (Hadisoewignyo dan Fudholi, 2013)	1,10	1,00-1,11 Sangat baik (Hadisoewignyo dan Fudholi, 2013)
	II	9,36		1,12	
	III	9,34		1,10	
	Rata-Rata	9,33		1,11	
	± SD	0,03		0,01	
F4	I	12,64	11-15 Baik (Hadisoewignyo dan Fudholi, 2013)	1,12	1,12-1,18 Baik (Hadisoewignyo dan Fudholi, 2013)
	II	12,63		1,14	
	III	12,62		1,16	
	Rata-Rata	12,63		1,14	
	± SD	0,01		0,02	
F5	I	13,13	11-15 Baik (Hadisoewignyo dan Fudholi, 2013)	1,12	1,12-1,18 Baik (Hadisoewignyo dan Fudholi, 2013)
	II	13,14		1,15	
	III	13,16		1,12	
	Rata-Rata	13,14		1,13	
	± SD	0,02		0,02	
F6	I	11,63	11-15 Baik (Hadisoewignyo dan Fudholi, 2013)	1,16	1,12-1,18 Baik (Hadisoewignyo dan Fudholi, 2013)
	II	11,62		1,16	
	III	11,66		1,14	
	Rata-Rata	11,64		1,15	
	± SD	0,02		0,01	
F7	I	11,62	11-15 Baik (Hadisoewignyo dan Fudholi, 2013)	1,12	1,12-1,18 Baik (Hadisoewignyo dan Fudholi, 2013)
	II	11,64		1,14	
	III	11,68		1,14	
	Rata-Rata	11,65		1,13	
	± SD	0,03		0,01	
F8	I	11.38	11-15 Baik (Hadisoewignyo dan Fudholi, 2013)	1,12	1,12-1,18 Baik (Hadisoewignyo dan Fudholi, 2013)
	II	11,32		1,16	
	III	11,36		1,16	
	Rata-Rata	11,35		1,15	
	± SD	0,03		0,02	

LAMPIRAN J

HASIL UJI KEKERASAN TABLET METFORMIN HCL

REPLIKASI I

No	Kekerasan Tablet Metformin HCl (Kp)							
	F1	F2	F3	F4	F5	F6	F7	F8
1	5,5	6,9	5,9	4,5	5,9	6.0	6,4	5,8
2	6,9	6,6	6,3	4,3	6,0	5,6	6,2	5,6
3	5,5	6,7	6,5	4,4	6,0	6,0	6,5	5,7
4	6,7	7,1	6,6	4,7	6,3	6,5	6,6	5,8
5	6,9	6,4	6,0	4,7	6,0	6,2	5,7	5,8
6	5,3	6,3	6,0	5,8	6,0	6,0	6,0	5,8
7	6,4	6,7	6,7	4,6	5,5	6,4	6,3	5,5
8	6,1	7,0	6,8	5,9	6,2	6,1	6,3	5,8
9	5,7	7,0	6,1	4,3	5,8	6,4	6,3	5,7
10	6,6	6,4	5,8	4,6	6,1	6,0	5,6	5,6
Rata-Rata ± SD	6,16 ± 0,62	6,71 ± 0,28	6,27 ± 0,3	4,78 ± 0,58	5,98 ± 0,22	6,13 ± 0,27	6,19 ± 0,33	5,71 ± 0,11

REPLIKASI II

No	Kekerasan Tablet Metformin HCl (Kp)							
	F1	F2	F3	F4	F5	F6	F7	F8
1	7,4	6,0	6,8	5,9	5,0	5,2	4,2	5,5
2	7,6	5,3	6,4	6,3	4,8	5,6	4,0	5,3
3	7,7	5,8	7,5	6,5	4,9	5,5	4,0	4,9
4	7,4	5,2	6,7	6,0	4,9	5,6	4,2	5,7
5	7,5	5,9	6,2	5,6	4,9	5,3	4,2	5,6
6	7,7	5,8	6,6	5,9	5,1	5,4	4,0	5,9
7	7,1	5,7	,2	6,7	4,8	5,2	4,1	5,3
8	7,7	6,0	7,5	5,8	4,7	5,6	4,0	4,7
9	7,2	5,9	6,5	6,2	4,8	5,3	4,0	4,8
10	7,0	6,0	6,8	6,4	4,9	5,3	4,1	5,5
Rata-Rata ± SD	7,43 ± 0,26	5,76 ± 0,29	6,82 ± 0,45	6,13 ± 0,45	4,88 ± 0,11	5,4 ± 0,16	4,18 ± 0,37	5,32 ±0,40

REPLIKASI III

No	Kekerasan Tablet Metformin HCl (Kp)							
	F1	F2	F3	F4	F5	F6	F7	F8
1	5,3	5,7	4,6	5,6	6,1	4,4	4,0	5,9
2	5,4	5,7	4,9	4,3	5,4	4,9	4,1	5,3
3	5,6	5,3	5,2	5,3	5,5	4,2	4,0	4,4
4	5,4	5,7	4,9	5,2	4,5	5,0	4,3	5,8
5	4,9	5,4	5,1	4,6	4,9	4,5	4,2	5,3
6	5,2	5,5	5,3	5,1	4,6	4,4	4,0	4,6
7	5,3	5,3	5,3	5,8	5,3	4,3	4,0	4,5
8	5,8	5,5	4,9	5,1	5,2	4,6	4,2	4,8
9	5,9	5,0	5,2	4,5	4,5	4,1	4,0	5,3
10	5,2	5,3	4,6	4,8	5,3	5,2	4,0	5,7
Rata-Rata ± SD	5,4 ± 0,30	5,44 ± 0,23	5,0 ± 0,26	5,03 ± 0,48	5,13 ± 0,51	4,56 ± 0,36	4,07 ± 0,12	5,16 ± 0,55

LAMPIRAN K

HASIL UJI KERAPUHAN TABLET METFORMIN HCL

Formula	Replikasi	Berat Awal (Gram)	Berat Akhir (Gram)	Kerapuhan (%)	Rata-Rata ± SD
	I	14,44	14,35	0,623	0,64
\F1	II	14,04	13,95	0,641	±
	III	13,93	13,84	0,650	0,01
	I	14,24	14,15	0,632	0,64
F2	II	13,91	13,82	0,647	±
	III	14,14	14,05	0,636	0,008
	I	14,20	14,10	0,704	0,76
F3	II	14,03	13,92	0,784	±
	III	14,04	13,93	0,783	0,05
	I	14,02	13,93	0,641	0,64
F4	II	14,03	13,94	0,641	±
	III	14,02	13,93	0,642	0,006
	I	14,06	13,96	0,711	0,69
F5	II	14,10	14,01	0,642	±
	III	13,90	13,80	0,719	0,04
	I	13,97	13,89	0,575	0,55
F6	II	14,00	13,92	0,571	±
	III	14,01	13,94	0,502	0,04
	I	14,15	14,04	0,777	0,71
F7	II	14,08	13,98	0,643	±
	III	14,06	13,96	0,716	0,07
	I	13,82	13,74	0,579	0,58
F8	II	13,91	13,84	0,506	±
	III	13,92	13,83	0,647	0,07

LAMPIRAN L

HASIL UJI WAKTU HANCUR TABLET METFORMIN HCL

Keterangan	Waktu Hancur Tablet Metformin HCl (Menit)							
	F1	**F2**	**F3**	**F4**	**F5**	**F6**	**F7**	**F8**
Reprlikasi I	**2,42**	**5,43**	**4,13**	**5,07**	**4,28**	**6,02**	**2,00**	**2,38**
Replikasi II	**2,40**	**5,45**	**4,20**	**5,10**	**4,35**	**6,00**	**2,25**	**2,45**
Replikasi III	**2,50**	**5,50**	**4,10**	**5,14**	**4,55**	**6,05**	**2,40**	**2,10**
Rata-Rata ± SD	**2,44 0.00**	**5,46 0.00**	**4,14 0.00**	**5,10 0.00**	**4,39 0.01**	**6,02 0,00**	**2,21 0.01**	**2,31 0.01**

LAMPIRAN M

HASIL UJI KESERAGAMAN BOBOT TABLET METFORMIN HCL

REPLIKASI 1

No	Bobot Tablet															
	F1	**Pb (%)**	**F2**	**Pb (%)**	**F3**	**Pb (%)**	**F4**	**Pb (%)**	**F5**	**Pb (%)**	**F6**	**Pb (%)**	**F7**	**Pb (%)**	**F8**	**Pb (%)**
1	0,70	0,00	0,70	0,00	0,72	1,43	0,69	1,43	0,71	1,43	0,70	0,00	0,69	1,43	0,71	1,43
2	0,71	1,43	0,71	1,43	0,71	1,43	0,70	0,00	0,70	0,00	0,70	0,00	0,69	1,43	0,71	1,43
3	0,71	1,43	0,70	0,00	0,70	0,00	0,69	1,43	0,71	1,43	0,70	0,00	0,69	1,43	0,71	1,43
4	0,70	0,00	0,71	1,43	0,71	1,43	0,70	0,00	0,71	1,43	0,69	1,43	0,70	0,00	0,70	0,00
5	0,71	1,43	0,70	0,00	0,71	1,43	0,70	0,00	0,71	1,43	0,71	1,43	0,70	0,00	0,71	1,43
6	0,72	1,43	0,71	1,43	0,71	1,43	0,70	0,00	0,70	0,00	0,71	1,43	0,70	0,00	0,71	1,43
7	0,71	1,43	0,70	0,00	0,70	0,00	0,69	1,43	0,70	0,00	0,69	1,43	0,71	1,43	0,70	0,00
8	0,70	0,00	0,72	1,43	0,72	2,86	0,70	0,00	0,71	1,43	0,69	1,43	0,71	1,43	0,71	1,43
9	0,71	1,43	0,72	1,43	0,71	1,43	0,70	0,00	0,70	0,00	0,70	0,00	0,71	1,43	0,69	1,43
10	0,71	1,43	0,71	1,43	0,71	1,43	0,70	0,00	0,71	1,43	0,70	0,00	0,70	0,00	0,69	1,43
11	0,71	1,43	0,71	1,43	0,71	1,43	0,70	0,00	0,72	1,43	0,71	1,43	0,69	1,43	0,70	0,00
12	0,70	0,00	0,71	1,43	0,71	1,43	0,70	0,00	0,71	1,43	0,71	1,43	0,70	0,00	0,70	0,00
13	0,72	1,43	0,71	1,43	0,71	1,43	0,70	0,00	0,71	1,43	0,71	1,43	0,70	0,00	0,70	0,00
14	0,71	1,43	0,71	1,43	0,72	2,86	0,69	1,43	0,70	0,00	0,71	1,43	0,70	0,00	0,71	1,43
15	0,71	1,43	0,70	0,00	0,71	1,43	0,70	0,00	0,71	1,43	0,70	0,00	0,70	0,00	0,70	0,00
16	0,71	1,43	0,70	1,43	0,71	1,43	0,70	0,00	0,70	0,00	0,70	0,00	0,70	0,00	0,71	1,43
17	0,71	1,43	0,71	1,43	0,71	1,43	0,70	0,00	0,70	0,00	0,70	0,00	0,71	1,43	0,71	1,43
18	0,71	1,43	0,70	0,00	0,71	1,43	0,70	0,00	0,69	1,43	0,71	1,43	0,70	0,00	0,70	0,00
19	0,71	1,43	0,71	1,43	0,71	1,43	0,69	1,43	0,69	1,43	0,70	0,00	0,70	0,00	0,71	1,43
20	0,70	0,00	0,71	1,43	0,71	1,43	0,69	1,43	0,70	0,00	0,70	0,00	0,70	0,00	0,70	0,00
Rata-Rata ± SD	0,71 ± 0,01	1,07 ± 0,64	0,71 ± 0,01	1,00 ± 0,67	0,71 ± 0,01	1,43 ± 0,66	0,69 ± 0,00	0,43 ± 0,67	0,70 ± 0,01	0,86 ± 0,72	0,70 ± 0,01	0,72 ± 0,73	0,70 ± 0,01	0,57 ± 0,72	0,70 ± 0,01	0,86 ± 0,72

REPLIKASI II

No	Bobot Tablet															
	F1	**Pb (%)**	**F2**	**Pb (%)**	**F3**	**Pb (%)**	**F4**	**Pb (%)**	**F5**	**Pb (%)**	**F6**	**Pb (%)**	**F7**	**Pb (%)**	**F8**	**Pb (%)**
1	0,69	1,43	0,70	0,00	0,70	0,00	0,69	1,43	0,71	1,43	0.71	1,43	0,69	1,43	0,70	0,00
2	0,71	1,43	0,70	0,00	0,71	1,43	0,70	0,00	0,70	0,00	0,70	0,00	0,70	0,00	0,71	1,43
3	0,70	0,00	0,70	0,00	0,70	0,00	0,69	1,43	0,71	1,43	0,71	1,43	0,69	1,43	0,71	1,43
4	0,70	0,00	0,71	1,43	0,69	1,43	0,70	0,00	0,71	1,43	0,69	1,43	0,70	0,00	0,70	0,00
5	0,71	1,43	0,70	0,00	0,70	0,00	0,71	1,43	0,71	1,43	0.70	0,00	0,70	0,00	0,71	1,43
6	0,70	0,00	0,69	1,43	0,71	1,43	0,71	1,43	0,70	0,00	0,70	0,00	0,70	0,00	0,69	1,43
7	0,71	1,43	0,70	0,00	0,70	0,00	0,69	1,43	0,70	0,00	0,69	1,43	0,71	1,43	0,70	0,00
8	0,69	1,43	0,71	1,43	0,69	1,43	0,70	0,00	0,70	0,00	0,69	1,43	0,70	0,00	0,71	1,43
9	0,71	1,43	0,71	1,43	0,71	1,43	0,70	0,00	0,69	1,43	0,70	0,00	0,71	1,43	0,69	1,43
10	0,71	1,43	0,71	1,43	0,71	1,43	0,69	1,43	0,71	1,43	0,70	0,00	0,70	0,00	0,70	0,00
11	0,71	1,43	0,71	1,43	0,70	0,00	0,70	0,00	0,70	0,00	0,70	0,00	0,69	1,43	0,70	0,00
12	0,69	1,43	0,70	0,00	0.71	1,43	0,70	0,00	0,71	1,43	0,71	1,43	0,70	0,00	0,70	0,00
13	0,70	0,00	0,70	0,00	0,71	1,43	0,71	1,43	0,71	1,43	0,71	1,43	0,71	1,43	0,70	0,00
14	0,71	1,43	0,71	1,43	0,72	2,86	0,69	1,43	0,70	0,00	0,70	0,00	0,70	0,00	0,71	1,43
15	0,70	0,00	0,69	1,43	0,70	0,00	0,71	1,43	0,71	1,43	0,70	0,00	0,71	1,43	0,70	0,00
16	0,70	0,00	0,70	0,00	0,71	1,43	0,71	1,43	0.70	0,00	0,70	0,00	0,70	0,00	0,70	0,00
17	0,71	1,43	0,69	1,43	0,71	1,43	0,71	1,43	0,70	0,00	0,70	0,00	0,71	1,43	0,71	1,43
18	0,70	0,00	0,70	0,00	0,70	0,00	0,70	1,43	0,70	0,00	0,70	0,00	0,70	0,00	0,70	0,00
19	0,71	1,43	0,71	1,43	0,71	1,43	0,69	1,43	0,70	0,00	0,70	0,00	0,69	1,43	0,71	1,43
20	0,69	1,43	0,70	0,00	0,70	0,00	0,69	1,43	0,70	0,00	0,69	1,43	0,70	0,00	0,71	1,43
Rata-	0,70	0,93	0,70	0,72	0,70	0,93	0,70	1,00	0,70	0,64	0,70	0,57	0,70	0,64	0,70	0,72
Rata ±	±	±	±	±	±	±	±	±	±	±	±	±	±	±	±	±
SD	0,01	0,70	0,01	0.73	0,01	0,84	0,01	0,67	0,01	0,73	0,01	0,72	0,01	0,73	0,01	0,73

REPLIKASI III

No	Bobot Tablet															
	F1	**Pb (%)**	**F2**	**Pb (%)**	**F3**	**Pb (%)**	**F4**	**Pb (%)**	**F5**	**Pb (%)**	**F6**	**Pb (%)**	**F7**	**Pb (%)**	**F8**	**Pb (%)**
1	0,70	0,00	0,70	0,00	0,70	0,00	0,69	1,43	0,70	0,00	0.70	0,00	0,71	1,43	0,70	0,00
2	0,71	1,43	0,70	0,00	0,71	1,43	0,70	0,00	0,70	0,00	0,70	0,00	0,71	1,43	0,71	1,43
3	0,69	1,43	0,70	0,00	0,70	0,00	0,71	1,43	0,71	1,43	0,70	0,00	0,69	1,43	0,70	0,00
4	0,70	0,00	0,71	1,43	0,70	0,00	0,70	0,00	0,71	1,43	0,70	0,00	0,70	0,00	0,70	0,00
5	0,71	1,43	0,70	0,00	0,71	1,43	0,71	1,43	0,70	0,00	0.71	1,43	0,70	0,00	0,69	1,43
6	0,72	2,86	0,69	1,43	0,71	1,43	0,70	0,00	0,70	0,00	0,71	1,43	0,70	0,00	0,71	1,43
7	0,71	1,43	0,70	0,00	0,70	0,00	0,70	0,00	0,70	0,00	0,7	0,00	0,69	1,43	0,70	0,00
8	0,69	1,43	0,70	0,00	0,69	1,43	0,70	0,00	0,71	1,43	0,69	1,43	0,69	1,43	0,71	1,43
9	0,71	1,43	0,71	1,43	0,71	1,43	0,69	1,43	0,70	0,00	0,70	0,00	0,69	1,43	0,69	1,43
10	0,71	1,43	0,70	0,00	0,71	1,43	0,69	1,43	0,71	1,43	0,71	1,43	0,70	0,00	0,69	1,43
11	0,70	0,00	0,71	1,43	0,70	0,00	0,70	0,00	0,69	1,43	0,71	1,43	0,69	1,43	0,70	0,00
12	0,70	0,00	0,70	0,00	0.71	1,43	0,71	1,43	0,71	1,43	0,69	1,43	0,71	1,43	0,70	0,00
13	0,70	0,00	0,71	1,43	0,70	0,00	0,70	0,00	0,71	1,43	0,71	1,43	0,70	0,00	0,70	0,00
14	0,71	1,43	0,69	1,43	0,69	1,43	0,70	0,00	0,70	0,00	0,71	1,43	0,70	0,00	0,71	1,43
15	0,71	1,43	0,70	0,00	0,71	1,43	0,70	0,00	0,70	0,00	0,70	0,00	0,70	0,00	0,69	1,43
16	0,69	1,43	0,69	1,43	0,71	1,43	0,70	0,00	0.69	1,43	0,70	0,00	0,70	0,00	0,71	1,43
17	0,71	1,43	0,70	0,00	0,70	0,00	0,71	1,43	0,70	0,00	0,71	1,43	0,70	0,00	0,71	1,43
18	0,71	1,43	0,70	0,00	0,71	1,43	0,70	0,00	0,70	0,00	0,71	1,43	0,70	0,00	0,71	1,43
19	0,70	0,00	0,71	1,43	0,71	1,43	0,70	0,00	0,71	1,43	0,70	0,00	0,71	0,00	0,71	1,43
20	0,70	0,00	0,70	0,00	0,70	0,00	0,69	1,43	0,70	0,00	0,71	1,43	0,71	1,43	0,70	0,00
Rata-Rata ± SD	0,70 ± 0,01	1,00 ± 0,82	0,70 ± 0,01	0,57 ± 0,72	0,70 ± 0,01	0,86 ± 0,72	0,70 ± 0,01	0,57 ± 0,72	0,70 ± 0,01	0,64 ± 0,73	0,70 ± 0,01	0,79 ± 0,73	0,70 ± 0,01	0,64 ± 0,73	0,70 ± 0,01	0,86 ± 0,72

LAMPIRAN N

HASIL UJI KURVA BAKU PENETAPAN KADAR TABLET METFORMIN HCl DALAM AKUADES

Hari	No	Konsentrasi (µg/ml)	Absorbansi	Persamaan garis
I	1	3,009	0.,80	y = 0,078x + 0,039 r_{hitung}/r_{tabel} = 0,999/0,878 a = 0,039 b = 0,078 r = 0,999
	2	4,512	0,381	
	3	6,018	0,511	
	4			
	5	7,523	0,629	
		9,027	0,744	
II	1	3,003	0,250	y = 0,079x + 0,031 r_{hitung}/r_{tabel} = 0,956/0,878 a = 0,031 b = 0,079 r = 0,956
	2	4,505	0,370	
	3	6,006	0,579	
	4			
	5	7,508	0,635	
		9,009	0,717	
III	1	3,006	0,251	y = 0,081x + 0,014 r_{hitung}/r_{tabel} = 0,992/0,878 a = 0,081 b = 0,014 r = 0,992
	2	4,509	0,370	
	3	6,012	0,532	
	4			
	5	7,515	0,615	
		9,018	0,737	

LAMPIRAN O

HASIL UJI AKURASI DAN PRESISI PENETAPAN KADAR TABLET METFORMIN HCl

Tingkat	Replikasi	Konsentrasi (ppm)	Absorbansi	% Recovery	Rata-rata	± SD	%KV
80% (400 mg)	1	4.8036	0.410	99.95	99.96	0.0144	0.0144
	2	4.8048	0.411	99.95			
	3	4.8036	0.411	99.98			
100% (500 mg)	1	6.0012	0.503	100.00	100.01	0.0416	0.0416
	2	5.9988	0.504	100.06			
	3	6.0036	0.510	99.98			
120% (600 mg)	1	7.2036	0.602	99.97	99.97	0.0254	0.0254
	2	7.2024	0.603	100.00			
	3	7.2060	0.606	99.95			

LAMPIRAN P

HASIL UJI SCAN BLANKO PENETAPAN KADAR TABLET METFORMIN HCl

Replikasi	Absorbansi
1	0,000
2	0,001
3	0,001

LAMPIRAN Q

HASIL PENETAPAN KADAR TABLET METFORMIN HCl

Formula	Replikasi	Absorbansi	C_{sampel} (µg/mL)	$C_{teoritis}$ (µg/mL)	Kadar (%)	Kadar BA	$X_{rata\text{-}rata} \pm SD$	%KV
I	1	0,510	6,01	6,00	100,51	502,567	100,49± 0,32	0,32
	2	0,512	6,06	6,01	100,79	503,994		
	3	0,509	6,02	6,01	100,16	500,799		
2	1	0,514	6,08	6,01	101,23	506,125	100,96±0,25	0,25
	2	0,512	6,06	6,00	100,94	504,700		
	3	0,511	6,04	6,00	100,73	503,633		
3	1	0,508	6,01	6,00	100,09	500,425	100,25±0,15	0,15
	2	0,509	6,02	6,00	100,30	501,500		
	3	0,510	6,03	6,01	100,37	501,864		
4	1	0,505	5,97	6,00	99,45	497,225	99,90±0,55	0,55
	2	0,507	5,99	6,01	99,73	498,660		
	3	0,510	6,03	6,00	100,51	502,567		
5	1	0,503	5,94	6,00	99,02	495,100	99,47±0,55	0,55
	2	0,505	5,97	6,01	99,31	496,530		
	3	0,508	6,01	6,00	100,09	500,425		
6	1	0,510	6,03	6,01	100,37	501,864	100,87±0,53	0,53
	2	0,512	6,06	6,01	100,79	503,994		
	3	0,515	6,09	6,01	101,44	507,190		
7	1	0,511	6,04	6,01	100,59	502,929	100,70±0,20	0,20
	2	0,512	6,06	6,00	100,94	504,700		
	3	0,511	6,04	6,01	100,59	502,929		
8	1	0,512	6,06	6,00	100.94	504,700	100,94±0,18	0,18
	2	0,513	6,07	6,00	101,13	505,623		
	3	0,511	6,04	5,99	100,77	503,843		

LAMPIRAN R

HASIL UJI F KURVA BAKU DENGAN AKUADES UNTUK UJI PENETAPAN KADAR METFORMIN HCl

Replikasi	C (ppm)	Abs	X^2	Y^2	XY
1	3.01	0.280	9.05	0.08	0.84
	4.51	0.381	20.37	0.15	1.72
	6.02	0.511	36.22	0.26	3.08
	7.52	0.629	56.59	0.40	4.73
	9.03	0.744	81.49	0.55	6.72
Total			203.72	1.43	17.09
2	3.00	0.250	9.02	0.06	0.75
	4.50	0.370	20.29	0.14	1.67
	6.01	0.579	36.07	0.34	3.48
	7.51	0.635	56.36	0.40	4.77
	9.01	0.717	81.16	0.51	6.46
Total			202.91	1.45	17.12
3	3.01	0.251	9.04	0.06	0.75
	4.51	0.370	20.33	0.14	1.67
	6.01	0.532	36.14	0.28	3.20
	7.52	0.615	56.48	0.38	4.62
	9.02	0.737	81.32	0.54	6.65
Total			203.31	1.40	16.89

Persamaan regresi 1 : y = 0,078x + 0,039 r_{hitung}/r_{tabel} = 0,999/0,878
Persamaan regresi 2 : y = 0,079x + 0,031 r_{hitung}/r_{tabel} = 0,956/0,878
Persamaan regresi 3 : y = 0,081x + 0,014 r_{hitung}/r_{tabel} = 0,992/0,878

	Jumlah X2	Jumlah XY	Jumlah Y2	n	Residual SS	Residual DF
Pers.Reg 1	203.72	17.09	1.43	5	1.0E-03	4
Pers.Reg 2	202.91	17.12	1.45	5	7.2E-03	4
Pers.Reg 3	203.31	16.89	1.40	5	1.3E-03	4
Pooled reg.					9.6E-03	12
Common reg.	609.93	51.10	4.29		9.7E-03	11

SS1	**0,001**
SS2	0,007
SS3	0,001
Sse	0,009
F hitung	0,111
F (0.05)(2,15)	3,68

F hitung < Ftabel

LAMPIRAN S

HASIL LINIERITAS UJI DISOLUSI

Hari	No	Konsentrasi (µg/ml)	Absorbansi	Persamaan garis
I	1			y = 0,087x + 0,007
	2	3,009	0,273	r_{hitung}/r_{tabel} = 0,962/0,878
	3	4,514	0,328	a = 0,007
		6,018	0,571	
	4	7,523	0,645	b = 0,087
	5	9,027	0,769	r = 0,962
II	1			y = 0,079x + 0,022
	2	3,006	0,270	r_{hitung}/r_{tabel} = 0,949/0,878
	3	4,509	0,328	a = 0,022
		6,012	0,564	
	4	7,515	0,635	b = 0,079
	5	9,018	0,717	r = 0,949
III	1			y = 0,086x + 0,001
	2	3,003	0,243	r_{hitung}/r_{tabel} = 0,945/0,878
	3	4,505	0,351	a = 0,001
		6,006	0,579	
	4	7,508	0,685	b = 0,086
	5	9,009	0,723	r = 0,945

LAMPIRAN T

HASIL UJI *SCAN* BLANGKO DISOLUSITABLET METFORMIN HCl

Rep.	Abs.
1	0,219
2	0,218
3	0,219

LAMPITAN U

HASIL AKURASI PRESISI UJI DISOLUSI

Replikasi	Konsentrasi (%)	Absorbansi	Konsentrasi (µg/ml)	Teoritis (µg/ml)	Perolehan Kembali (%)	Rata-rata ±SD
	70	0,427	4,985	5,056	98,598	98,832
I	70	0,428	4,997	5,055	98,835	±
	70	0,429	5,008	5,055	99,063	0,23
	85	0,521	6,066	6,139	98,801	98,744
II	85	0,521	6,066	6,138	98,818	±
	85	0,520	6.054	6,139	98,614	0,11
	100	0,615	7,146	7,221	98,958	99.170
III	100	0,616	7,157	7,222	99,110	±
	100	0,618	7,180	7,221	99,442	0,25

LAMPIRAN V

HASIL UJI DISOLUSI TABLET METFORMIN HCl

FORMULA 1

						AUC_{n-1}^{tn}	
1	5	0,467	5,45	377,35	75,08	943,38	84,87
	10	0,485	5,66	391,51	77,90	1922,15	
	15	0,502	5,85	404,88	80,56	1990,97	
	20	0,523	6,09	421,39	83,85	2065,68	
	30	0,554	6,44	445,78	88,70	4335,85	
	45	0,602	6,99	483,53	96,21	6969,76	
	60	0,621	7,20	498,47	99,18	7364,97	
2	5	0,477	5,57	385,22	76,43	963,04	85,00
	10	0,485	5,66	391,51	77,68	1941,81	
	15	0,502	5,85	404,88	80,33	1990,97	
	20	0,523	6,09	421,39	83,61	2065,68	
	30	0,554	6,44	445,78	88,45	4335,85	
	45	0,602	6,99	483,53	95,94	6969,76	
	60	0,621	7,20	498,47	98,90	7364,97	
3	5	0,497	5,79	400,95	80,06	1002,37	86,45
	10	0,502	5,85	404,88	80,85	2014,56	
	15	0,515	6,00	415,10	82,89	2049,95	
	20	0,525	6,11	422,97	84,46	2095,18	
	30	0,568	6,60	456,79	91,21	4398,77	
	45	0,602	6,99	483,53	96,55	7052,34	
	60	0,621	7,20	498,47	99,53	7364,97	

FORMULA 2

						$AUC_{t_{n-1}}^{t_n}$	
1	5	0,506	5,90	408,02	80,62	1020,06	85,37
	10	0,516	6,01	415,89	82,17	2059,78	
	15	0,522	6,08	420,61	83,10	2091,24	
	20	0,530	6,17	426,90	84,35	2118,77	
	30	0,542	6,30	436,34	86,21	4316,19	
	45	0,605	7,02	485,89	96,00	6916,67	
	60	0,624	7,24	500,83	98,95	7400,36	
2	5	0,512	5,96	412,74	81,78	1031,86	87,30
	10	0,522	6,08	420,61	83,34	2083,38	
	15	0,532	6,19	428,47	84,90	2122,70	
	20	0,543	6,32	437,12	86,61	2163,99	
	30	0,568	6,60	456,79	90,51	4469,55	
	45	0,610	7,08	489,82	97,05	7099,53	
	60	0,630	7,30	505,55	100,17	7465,24	
3	5	0,510	5,94	411.,17	81,64	1027,93	88,81
	10	0,521	6,07	419,82	83,36	2077,48	
	15	0,532	6,19	428,47	85,08	2120,74	
	20	0,548	6,37	441,06	87,58	2173,82	
	30	0,595	6,91	478,02	94,92	4595,39	
	45	0,618	7,17	496,11	98,51	7305,98	
	60	0,634	7,35	508,69	101,01	7536,03	

FORMULA 3

						$AUC_{t_{n-1}}^{t_n}$	
1	5	0,514	5,99	414,32	82,79	1035,79	**90,44**
	10	0,522	6,08	420,61	84,05	2087,31	
	15	0,534	6,21	430,05	85,94	2126,63	
	20	0,552	6,42	444,20	88,76	2185,62	
	30	0,603	7,00	484,31	96,78	4642,58	
	45	0,624	7,24	500,83	100,08	7388,56	
	60	0,654	7,58	524,42	104,79	7689,39	
2	5	0,525	6,11	422,97	84,34	1057,42	**89,19**
	10	0,536	6,24	431,62	86,07	2136,47	
	15	0,545	6,34	438,70	87,48	2175,79	
	20	0,551	6,41	443,42	88,42	2205,28	
	30	0,582	6,76	467,80	93,28	4556,06	
	45	0,611	7,09	490,60	97,83	7188,01	
	60	0,638	7,40	511,84	102,06	7518.33	
3	5	0,509	5,93	410,38	81,77	1025,96	**88,80**
	10	0,518	6,03	417,46	83,18	2069,61	
	15	0,531	6,18	427,69	85,22	2112.87	
	20	0,547	6,36	440,27	87,73	2169,89	
	30	0,593	6,88	476,45	94,94	4583,59	
	45	0,615	7,13	493,75	98,38	7276,49	
	60	0,631	7,32	506,33	100,89	7500,63	

FORMULA 4

						$AUC_{t_{n-1}}^{t_n}$	
1	5	0,522	6,08	420,61	84,59	1051,52	**89,20**
	10	0,539	6,27	433,98	87,28	2136,47	
	15	0,555	6,45	446,56	89,81	2201,35	
	20	0.565	6,57	454,43	91,39	2252.47	
	30	0,575	6,68	462,29	92,97	4583,59	
	45	0,594	6,90	477,23	95,98	7046,44	
	60	0,625	7,25	501,62	100,88	7341,37	
2	5	0,498	5,80	401,73	80,56	1004,33	**86,40**
	10	0,511	5,95	411,96	82,61	2034,22	
	15	0,521	6,07	419,82	84,19	2079,45	
	20	0,538	6,26	433,19	86,87	2132,53	
	30	0,551	6,41	443,42	88,92	4383,04	
	45	0,595	6,91	478,02	95,86	6910,78	
	60	0,618	7,17	496,11	99,49	7305,98	
3	5	0,505	5,88	407,24	81,03	1018,09	**84,87**
	10	0,512	5,96	412,74	82,13	2049,95	
	15	0,521	6,07	419,82	83,53	2081,41	
	20	0,530	6,17	426,90	84,94	2116,80	
	30	0.545	6,34	438,70	87,29	4327,98	
	45	0,585	6,79	470,16	93,55	6816,40	
	60	0,607	7,04	487,46	96,99	7182,11	

FORMULA 5

						$AUC_{t_{n-1}}^{t_n}$	
	5	0,472	5,51	381,28	77,01	953,21	
	10	0,498	5,80	401,73	81,14	1957,54	
	15	0,513	5,98	413,53	83,52	2038,16	
1	20	0,523	6,09	421,39	85.11	2087,31	**87,86**
	30	0,558	6,49	448,92	90,67	4351,58	
	45	0,615	7,13	493,75	99,73	7070,04	
	60	0,655	7,59	525,21	106,08	7642,20	
	5	0,501	5,84	404,09	81,38	1010,23	
	10	0,525	6,11	422,97	8518	2067,65	
	15	0,537	6,25	432,41	87,09	2138,43	
2	20	0,559	6,50	449,71	90,57	2205,28	**89,82**
	30	0,575	6,68	462,29	93,10	4560,00	
	45	0,624	7,24	500,83	100,87	7223,40	
	60	0,631	7,32	506,33	101,97	7553,72	
	5	0,492	5,74	397,01	79,33	992,53	
	10	0,518	6,03	417,46	83,42	2036,19	
	15	0,527	6,13	424,54	84,84	2105,01	
3	20	0,538	6,26	433,19	86,56	2144,33	**87,83**
	30	0,576	6,69	463,08	92,54	4481,35	
	45	0,609	7,07	489,03	97,72	7140,82	
	60	0,632	7,33	507,12	101,34	7471,14	

FORMULA 6

						$AUC_{t_{n-1}}^{t_n}$	
	5	0.518	6.03	417.46	83.18	1043.66	
	10	0.528	6.15	425.33	84.75	2106.97	
	15	0.535	6.23	430.83	85.85	2140.40	
1	20	0.558	6.49	448.92	89.45	2199.38	**89.89**
	30	0.598	6.94	480.38	95.72	4646.51	
	45	0.622	7.21	499.26	99.48	7347.27	
	60	0.638	7.40	511.84	101.99	7583.21	
	5	0.51	5.94	411.17	82.23	1027.93	
	10	0.519	6.04	418.25	83.65	2073.55	
	15	0.528	6.15	425.33	85.07	2108.94	
2	20	0.539	6.27	433.98	86.80	2148.26	**86.87**
	30	0.557	6.48	448.13	89.63	4410.56	
	45	0.608	7.05	488.25	97.65	7022.85	
	60	0.634	7.35	508.69	101.74	7477.04	
	5	0.512	5.96	412.74	81.38	1031.86	
	10	0.521	6.07	419.82	82.77	2081.41	
	15	0.531	6.18	427.69	84.32	2118.77	
3	20	0.542	6.30	436.34	86.03	2160.06	**86.88**
	30	0.569	6.61	457.57	90.22	4469.55	
	45	0.605	7.02	485.89	95.80	7075.94	
	60	0.641	7.43	514.20	101.38	7500.63	

FORMULA 7

						$AUC_{t_{n-1}}^{t_n}$	
1	5	0.529	6.16	426.11	84.73	1065.28	
	10	0.557	6.48	448.13	89.10	2185.62	
	15	0.579	6.73	465.44	92.55	2283.93	
	20	0.585	6.79	470.16	93.48	2338.98	**93,00**
	30	0.619	7.18	496.90	98.80	4835.26	
	45	0.638	7.40	511.84	101.77	7565.52	
	60	0.657	7.61	526.78	104.74	7789.66	
2	5	0.526	6.12	423.75	83.96	1059.38	
	10	0.548	6.37	441.06	87.39	2162.03	
	15	0.561	6.52	451.28	89.42	2230.84	
	20	0.588	6.83	472.52	93.62	2309.49	**92,80**
	30	0.624	7.24	500.83	99.23	4866.72	
	45	0.641	7.43	514.20	101.88	7612.71	
	60	0.666	7.71	533.86	105.78	7860.45	
3	5	0.525	6.11	422.97	84.10	1057.42	
	10	0.538	6.26	433.19	86.13	2140.40	
	15	0.559	6.50	449.71	89.42	2207.25	
	20	0.578	6.71	464.65	92.39	2285.90	**93,11**
	30	0.619	7.18	496.90	98.80	4807.74	
	45	0.648	7.51	519.70	103.34	7624.50	
	60	0.678	7.85	543.30	108.03	7972.52	

FORMULA 8

						$AUC_{t_{n-1}}^{t_n}$	
1	5	0.519	6.04	418.25	82.87	1045.62	**87.77**
	10	0.525	6.11	422.97	83.81	2103.04	
	15	0.531	6.18	427.69	84.74	2126.63	
	20	0.537	6.25	432.41	85.68	2150.23	
	30	0.558	6.49	448.92	88.95	4406.63	
	45	0.627	7.27	503.19	99.70	7140.82	
	60	0.637	7.38	511.05	101.26	7606.81	
2	5	0.51	5.94	411.17	81.32	1027.93	**85.73**
	10	0.521	6.07	419.82	83.03	2077.48	
	15	0.53	6.17	426.90	84.43	2116.80	
	20	0.538	6.26	433.19	85.68	2150.23	
	30	0.548	6.37	441.06	87.23	4371.24	
	45	0.6	6.96	481.95	95.32	6922.57	
	60	0.619	7.18	496.90	98.28	7341.37	
3	5	0.518	6.03	417.46	82.86	1043.66	**90.71**
	10	0.525	6.11	422.97	83.96	2101.07	
	15	0.532	6.19	428.47	85.05	2128.60	
	20	0.548	6.37	441.06	87.55	2173.82	
	30	0.625	7.25	501.62	99.57	4713.36	
	45	0.632	7.33	507.12	100.66	7565.52	
	60	0.647	7.50	518.92	103.00	7695.29	

LAMPIRAN W

HASIL UJI F KURVA BAKU DISOLUSI

Replikasi	C (ppm)	Abs	X2	Y2	XY
1	3,009	0,273	9,05	0,07	0,82
	4,514	0,328	20,37	0,11	1,48
	6,018	0,571	36,22	0,33	3,44
	7,523	0,645	56,59	0,42	4,85
	9,027	0,769	81,49	0,59	6,94
Total			**203,72**	**1,52**	**17,53**
2	3,006	0,270	9,04	0,07	0,81
	4,509	0,328	20,33	0,11	1,48
	6,012	0,564	36,14	0,32	3,39
	7,515	0,635	56,48	0,40	4,77
	9,018	0,717	81,32	0,51	6,47
Total			**203,31**	**1,42**	**16,92**
3	3,003	0,243	9,02	0,06	0,73
	4,505	0,351	20,29	0,12	1,58
	6,006	0,579	36,07	0,34	3,49
	7,508	0,685	56,36	0,47	5,14
	9,009	0,723	81,16	0,52	6,51
Total			**202,91**	**1,51**	**17,44**

	Jumlah X2	**Jumlah XY**	**Jumlah Y2**	**n**	**Residual SS**	**Residual DF**
Pers.Reg 1	203,72	17,05	1,52	5	8,7888E-02	4
Pers.Reg 2	203,31	16,92	1,42	5	7,8946E-03	4
Pers.Reg 3	202,91	17,44	1,51	5	9,6499E-03	4
Pooled reg.					1,0543E-01	12
Common reg.	609,93	51,42	4,44		1,0631E-01	**11**

SS1	0,09
SS2	0,01
SS3	0,01
Sse	0,11
F hitung	0,05
F (0.05)(2,15)	3,68

F hitung < Ftabel

LAMPIRAN X
CONTOH PERHITUNGAN

Contoh Perhitungan *Carr's Index* dan *Hausner Ratio*

Formula 1 (Replikasi 1) :

Berat gelas ukur = 86,29 gram (W_1)

Berat gelas ukur + granul = 130,24 (W_2)

V1= 100

V2 = 87

Bobot jenis (Bj) nyata = $\frac{(W_2 - W_1)}{V_1} = \frac{(130,24 - 86,29}{100} = 0,44$

Bobot jenis (Bj) mampat = $\frac{(W_2 - W_1)}{V_2} = \frac{(130,24 - 86,29)}{87} = 0,51$

Carr's Index = $\frac{(\text{Bj mampat} - \text{Bj nyata})}{\text{Bj mampat}} = \frac{(0,51 - 0,44)}{0,51} = 13,73\ \%$

Hausner Ratio = $\frac{\text{Bj mampat}}{\text{Bj nyata}} \times 100\ \% = \frac{0,51}{044} \times 100\ \% = 1,16$

Contoh perhitungan Akurasi Presisi :

Persamaan regresi yang didapat : Y = 0,078x + 0,039

Absorbansi akurasi presisi : 0,410

Maka C sampel yang didapat (x) = 0,410 – 0,039

= 0,371/0,078

= 4,801 ppm

% recovery = (C_{sampel} : $C_{teoritis}$) x 100%

= 4,801/4,804 x 100 %

= 99,95 %

% KV = (SD/$X_{rata-rata}$) x 100 % = (0,02/ 99,96) x 100 % = 0,02 %

Contoh perhitungan % obat terlepas:

Formula 1 replikasi 1 t = 60menit

Persamaan regresi yang digunakan : y = 0,087x + 0,007

Absorbansi (y) = 0,467

Csampel = 5,54 ppm

Kadar (mg) pada penetapan kadar = 502,57 mg

Wt (mg)= (5,54x0,9)x 76,9(faktor pengenceran)= 377,35 mg

% obat terrlepas = (377,351 mg / 502,57 mg) x 100 = 75,08 %

Contoh perhitungan AUC dan ED pada menit ke 60

Formula 1 replikasi 1:

t_n = 60 menit ; t_{n-1} = 45 menit

W_{tn} = 498,47 mg ; W_{tn-1} = 483,53 mg

ΣAUC_{tn-1}^{tn}= 25592,76µg menit/mL

Kadar (mg) pada PK = 502,57 mg

AUC_{tn-1}^{tn} = ((W_{tn} + W_{tn-1}): 2) x (t_n – t_{n-1}) = 2096,75 µg menit/mL

= ((498,47 + 483,53): 2) x (60 – 45) = 7364,97 µg menit/mL

ED_{60} (%) = (ΣAUC_{tn-1}^{tn} : L. persegi) x 100%

= (25592,76: (60menit x 502,57 mg)) x 100% = 84,87%

LAMPIRAN Y

HASIL UJI KEKERASAN FORMULA OPTIMUM DAN PEMBANDING TABLET METFORMIN HCL

	R1	**R2**	**R3**	**R1**	**R2**	**R3**
1	5,8	5,6	5,7	4,2	4,0	4,1
2	5,6	5,8	5,8	4,2	4,0	3,7
3	5,7	5,6	5,7	3,3	3,3	3,2
4	5,5	5,7	5,8	3,2	4,2	3,3
5	5,7	5,8	5,6	4,5	4,0	3,3
6	5,8	5,8	5,8	4,0	3,2	3,6
7	5,8	5,8	5,7	3,3	3,1	4,0
8	5,7	5,7	5,6	4,0	3,1	4,0
9	5,6	5,7	5,6	3,2	4,0	3,5
10	5,7	5,7	5,7	4,3	3,5	4,0
Rata-Rata	**5,7**	**5,7**	**5,7**	**3,8**	**3,6**	**3,7**
± SD	**0,1**	**0,1**	**0,1**	**0,5**	**0,4**	**0,3**

LAMPIRAN Z

HASIL UJI KERAPUHAN FORMULA OPTIMUM DAN PEMBANDING TABLET METFORMIN HCL

Formula	Replikasi	Berat Awal (Gram)	Berat Akhir (Gram)	Kerapuhan (%)	Rata-Rata ± SD
optimum	I	14,18	14,09	0,62	0,63 ± 0,00
	II	14,18	13,09	0,62	
	III	14,18	13,09	0,63	
pembanding	I	13,76	13,62	0,98	0,97 ± 0,03
	II	13,80	13,67	0,99	
	III	13,75	13,62	0,94	

LAMPIRAN AA

HASIL UJI WAKTU HANCUR FORMULA OPRIMUM DAN PEMBANDING TABLET METFORMIN HCL

	Formula optimum	**Formula pembanding**
R1	**4,12**	**2,15**
R2	**4,15**	**2,22**
R3	**4,18**	**2,20**
Rata-Rata	**4,15**	**2,19**
± SD	**0.03**	**0.04**

LAMPIRAN AB

HASIL UJI DISOLUSI FORMULA OPTIMUM, PEMBANDING, DAN INOVATOR TABLET METFORMIN HCl

TABLET OPTIMUM

						$AUC_{t_{n-1}}^{t_n}$	
1	5	0,472	5,502	380,814	77,362	952,035	87,164
	10	0,502	5,847	404,680	82,210	1963,734	
	15	0,517	6,020	416,612	84,634	2053,230	
	20	0,530	6,169	426,954	86,735	2108,916	
	30	0,543	6,318	437,296	88,836	4321,250	
	45	0,599	6,962	481,845	97,886	6893,555	
	60	0,608	7,066	489,004	99,341	7281,369	
2	5	0,473	5,514	381,610	76,682	954,024	87,421
	10	0,510	5,939	411,044	82,597	1981,633	
	15	0,528	6,146	425,363	85,474	2091,017	
	20	0,539	6,272	434,114	87,233	2148,692	
	30	0,552	6,422	444,455	89,311	4392,846	
	45	0,599	6,962	481,845	96,824	6947,252	
	60	0,615	7,146	494,573	99,382	7323,134	
3	5	0,478	5,571	385,587	77,793	963,968	88,024
	10	0,509	5,928	410,248	82,768	1989,589	
	15	0,529	6,157	426,159	85,978	2091,017	
	20	0,539	6,272	434,114	87,583	2150,681	
	30	0,552	6,422	444,455	89,669	4392,846	
	45	0,582	6,767	468,321	94,484	6845,824	
	60	0,603	6,998	484,313	97,711	7144,753	

TABLET PEMBANDING

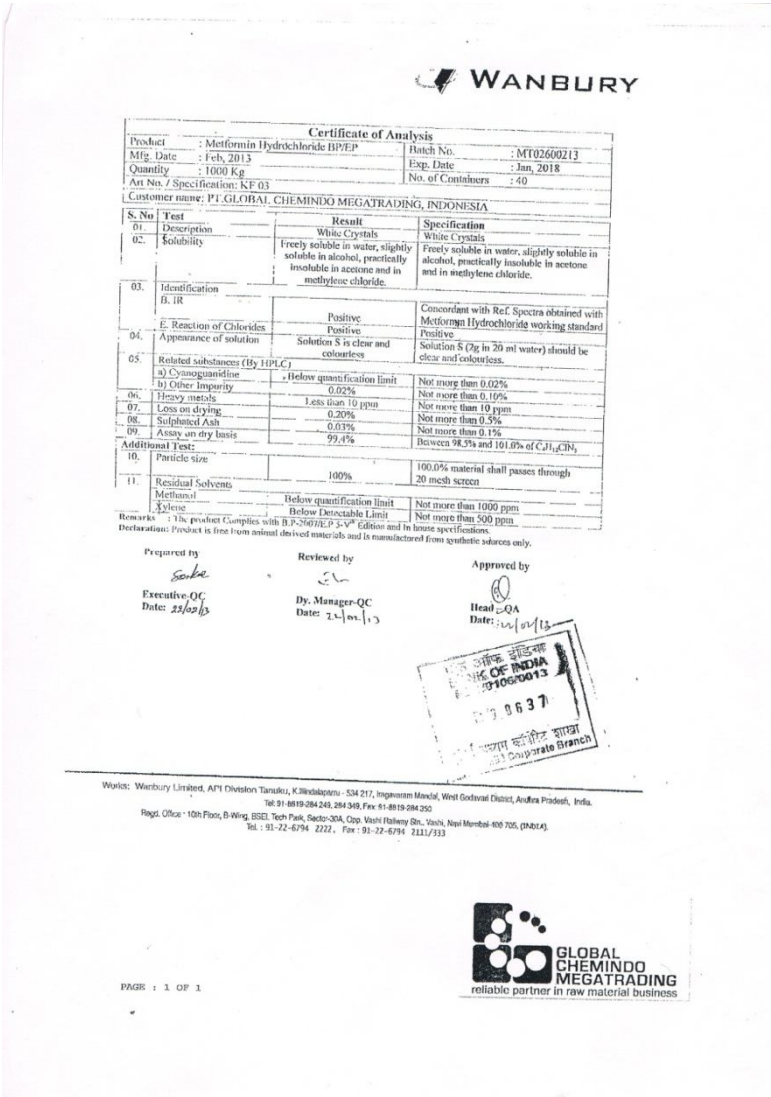
						$AUC_{t_n-t_{n-1}}$	
1	5	0,520	6,054	419,108	85,141	1047,770	**89,557**
	10	0,531	6,180	427,861	86,919	2117,422	
	15	0,542	6,307	436,614	88,698	2161,187	
	20	0,555	6,456	446,958	90,799	2208,930	
	30	0,569	6,617	458,098	93,062	4525,283	
	45	0,602	6,997	484,357	98,397	7068,418	
	60	0,612	7,111	492,315	100,013	7325,039	
2	5	0,519	6,043	418,312	84,058	1045,780	88,775
	10	0,528	6,146	425,474	85,497	2109,465	
	15	0,539	6,272	434,227	87,255	2149,251	
	20	0,549	6,387	442,184	88,854	2191,026	
	30	0,579	6,732	466,056	93,651	4541,198	
	45	0,601	6,985	483,562	97,169	7122,129	
	60	0,619	7,192	497,885	100,047	7360,846	
3	5	0,528	6,146	425,474	85,840	1063,684	90,149
	10	0,539	6,272	434,227	87,606	2149,251	
	15	0,549	6,387	442,184	89,211	2191,026	
	20	0,559	6,502	450,141	90,817	2230,813	
	30	0,604	7,020	485,949	98,041	4680,449	
	45	0,612	7,111	492,315	99,325	7336,974	
	60	0,623	7,238	501,067	101,091	7450,365	

TABLET INOVATOR

						$AUC_{t_{n-1}}^{t_n}$	
1	5	0,288	3,384	234,186	46,691	585,465	70,047
	10	0,365	4,269	295,437	58,904	1324,057	
	15	0,408	4,763	329,640	65,723	1562,693	
	20	0,438	5,108	353,504	70,481	1707,861	
	30	0,509	5,924	409,986	81,742	3817,451	
	45	0,511	5,947	411,571	82,058	6161,680	
	60	0,473	5,510	381,340	76,031	5946,835	
2	5	0,283	3,326	230,206	45,847	575,516	69,829
	10	0,361	4,223	292,253	58,204	1306,148	
	15	0,402	4,694	324,865	64,699	1542,795	
	20	0,433	5,050	349,524	69,610	1685,973	
	30	0,509	5,924	409,986	81,651	3797,553	
	45	0,514	5,981	413,959	82,442	6179,588	
	60	0,471	5,487	379,755	75,630	5952,856	
3	5	0,285	3,349	231,798	46,151	579,495	69,776
	10	0,368	4,303	297,824	59,297	1324,057	
	15	0,405	4,728	327,253	65,156	1562,693	
	20	0,435	5,073	351,116	69,907	1695,922	
	30	0,502	5,843	404,415	80,519	3777,655	
	45	0,512	5,958	412,367	82,102	6125,864	
	60	0,474	5,522	382,143	76,085	5958,825	

LAMPIRAN AC

SERTIFIKAT ANALISIS METFORMIN HCl



WANBURY

Certificate of Analysis

Product	: Metformin Hydrochloride BP/EP	Batch No.	: MT02600213
Mfg. Date	: Feb, 2013	Exp. Date	: Jan, 2018
Quantity	: 1000 Kg	No. of Containers	: 40
Art No. / Specification: KF 03			
Customer name: PT.GLOBAL CHEMINDO MEGATRADING, INDONESIA			

S. No	Test	Result	Specification
01.	Description	White Crystals	White Crystals
02.	Solubility	Freely soluble in water, slightly soluble in alcohol, practically insoluble in acetone and in methylene chloride.	Freely soluble in water, slightly soluble in alcohol, practically insoluble in acetone and in methylene chloride.
03.	Identification		
	B. IR	Positive	Concordant with Ref. Spectra obtained with Metformin Hydrochloride working standard
	E. Reaction of Chlorides	Positive	Positive
04.	Appearance of solution	Solution S is clear and colourless	Solution S (2g in 20 ml water) should be clear and colourless.
05.	Related substances (By HPLC)		
	a) Cyanoguanidine	Below quantification limit	Not more than 0.02%
	b) Other Impurity	0.02%	Not more than 0.10%
06.	Heavy metals	Less than 10 ppm	Not more than 10 ppm
07.	Loss on drying	0.20%	Not more than 0.5%
08.	Sulphated Ash	0.03%	Not more than 0.1%
09.	Assay on dry basis	99.4%	Between 98.5% and 101.0% of $C_4H_{11}CIN_5$
Additional Test:			
10.	Particle size	100%	100.0% material shall passes through 20 mesh screen
11.	Residual Solvents		
	Methanol	Below quantification limit	Not more than 1000 ppm
	Xylene	Below Detectable Limit	Not more than 500 ppm

Remarks : The product Complies with B.P./I.P./E.P 5-V^th Edition and In house specifications.
Declaration: Product is free from animal derived materials and is manufactured from synthetic sources only.

Prepared by
Executive-QC
Date: 22/02/13

Reviewed by
Dy. Manager-QC
Date: 24/02/13

Approved by
Head - QA
Date: 24/02/13

Works: Wanbury Limited, API Division Tanuku, K.Bindalapanu - 534 217, Ingavaram Mandal, West Godavari District, Andhra Pradesh, India.
Tel: 91-8819-284 249, 284 349, Fax: 91-8819-284 250
Regd. Office : 10th Floor, B-Wing, BSEL Tech Park, Sector-30A, Opp. Vashi Railway Stn., Vashi, Navi Mumbai-400 705. (MS)(A).
Tel. : 91-22-6794 2222, Fax : 91-22-6794 2111/333

PAGE : 1 OF 1

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reliable partner in raw material business

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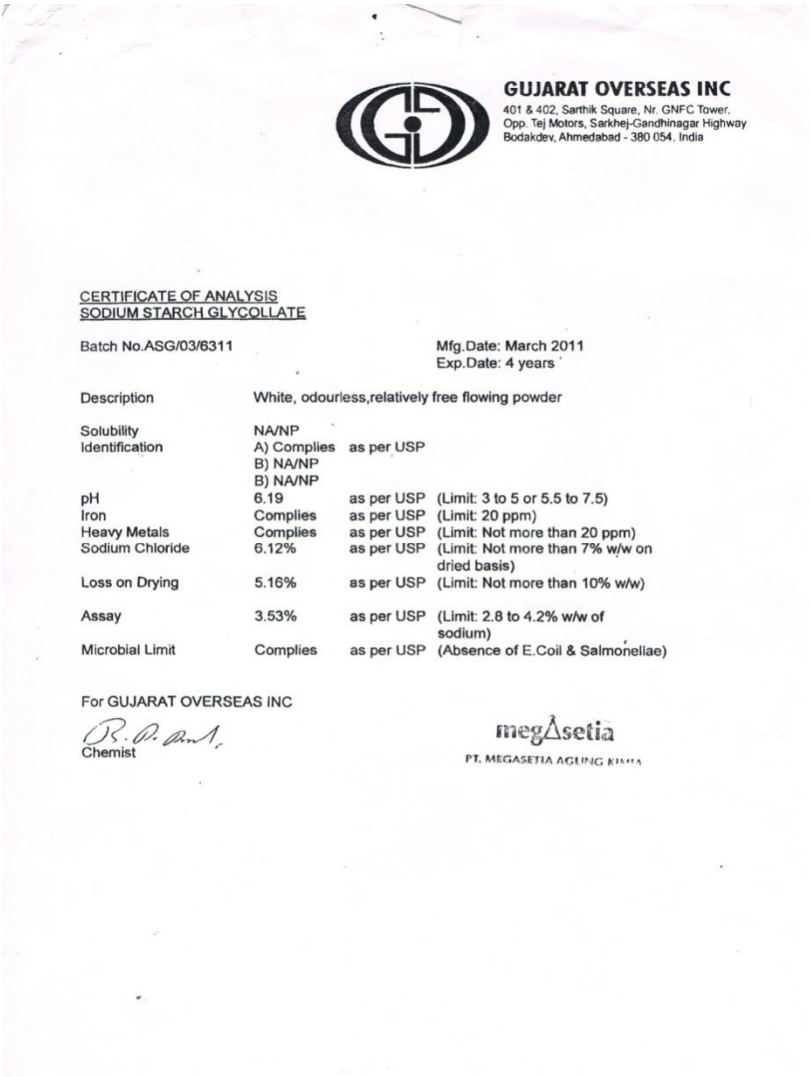
SERTIFIKAT ANALISIS SSG



GUJARAT OVERSEAS INC
401 & 402, Sarthik Square, Nr. GNFC Tower,
Opp. Tej Motors, Sarkhej-Gandhinagar Highway
Bodakdev, Ahmedabad - 380 054. India

CERTIFICATE OF ANALYSIS
SODIUM STARCH GLYCOLLATE

Batch No.ASG/03/6311

Mfg.Date: March 2011
Exp.Date: 4 years

Description	White, odourless,relatively free flowing powder		
Solubility	NA/NP		
Identification	A) Complies B) NA/NP B) NA/NP	as per USP	
pH	6.19	as per USP	(Limit: 3 to 5 or 5.5 to 7.5)
Iron	Complies	as per USP	(Limit: 20 ppm)
Heavy Metals	Complies	as per USP	(Limit: Not more than 20 ppm)
Sodium Chloride	6.12%	as per USP	(Limit: Not more than 7% w/w on dried basis)
Loss on Drying	5.16%	as per USP	(Limit: Not more than 10% w/w)
Assay	3.53%	as per USP	(Limit: 2.8 to 4.2% w/w of sodium)
Microbial Limit	Complies	as per USP	(Absence of E.Coil & Salmonellae)

For GUJARAT OVERSEAS INC

Chemist

megAsetia
PT. MEGASETIA AGUNG KIMIA

LAMPIRAN AE

SERTIFIKAT ANALISIS AVICEL PH-101

GUJARAT MICROWAX PRIVATE LIMITED

FLOCEL® 101

Microcrystalline cellulose NF,Ph.Eur.

CERTIFICATE OF ANALYSIS

Batch No: E0849 **Manufacturing Date: November-2012**

Manufacturing Site:Nandasan,India. **Re-evaluation Date: November-2017**

Analysis	Specifications	Reference	Batch Results
Colour	White	ph.Eur.	White
Identification A	Have to correspond	NF,ph.Eur.	Complies
Identification B	Have to correspond	NF,ph.Eur.	Complies
Degree of Polymerisation	Max.350	NF,ph.Eur.	Complies
Solubility	Have to correspond	ph.Eur.	Complies
pH	5.0-7.0	USP,ph.Eur.	6.32
Residue on Ignition	Max.0.05 %	USP,ph.Eur.	0.03%
Loss on Drying	Max.6.0 %	USP,ph.Eur.	3.42%
Heavy Metals	Max.10 ppm	USP	Complies
Conductivity	Max.75 µs/cm	USP,ph.Eur.	44 µs/cm
Water Soluble Substances	Max.0.24 %	USP,ph.Eur.	0.12%
Ether Soluble Substances	Max.0.05 %	USP,ph.Eur.	0.01%
Bulk Density	0.26 to 0.33 g/ml	NF	0.32 g/ml
Sieve Analysis(%Retention)			
60 Mesh (250 µm)	< 1.0 %	Inhouse method	Nil
200 Mesh (75 µm)	< 30.0 %		23.36%
Microbial Analysis			
Total Aerobic Microbial Plate Count	Max. 100 CFU/g	USP,ph.Eur.	20
Total Yeast and Molds Count	Max. 20 CFU/g	USP,ph.Eur.	< 10
Escherichia Coli	Should be Absent	USP,ph.Eur.	Absent
Staphylococcus Aureus	Should be Absent	USP,ph.Eur.	Absent
Salmonella Species	Should be Absent	USP,ph.Eur.	Absent
Pseudomonas Aeruginosa	Should be Absent	USP,ph.Eur.	Absent

The raw materials,manufacturing process and product do not contain any of the solvents listed in Residual Solvents (Ph.Eur. < 5.4 >, USP < 467 >)

For GUJARAT MICROWAX PVT. LTD.

Chemist Quality Control / Jayesh prajapati / DATE : 06/11/2012

megAsetia

PT. MEGASETIA AGUNG KI...

Manufacturer:
INDIA
Gujarat Corporate Office

Sales + Marketing:
WORLDWIDE
JRS PHARMA GMBH+CO.KG

USA + CANADA
JRS PHARMA LP

LAMPIRAN AF

SERTIFIKAT ANALISIS MAGNESIUM STEARAT

Magnesium stearat:

SUN PLAN DEVELOPMENT LTD.

CERTIFICATE OF ANALYSIS

INVOICE NO. : 1514

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 V.SL "HUANDAO" V.3192 FROM BAYUQUAN, CHINA SEAPORT TO TG.PRIOK PORT, JAKARTA, INDONESIA ON ABOUT 18 OCT 2003 DRAWN UNDER IRREVOCABLE DC NO.02/03U/0645 DD 19SEPT03 OF BANK NISP PT (SWIFT ADDRESS : NISPIDJA)

COMMODITY : TALC POWDER HAICHEN
QUANTITY : 48 MT

SiO2 :	60.1%
MgO :	30.8%
WHITENESS :	92.8%
CaO :	0.4%
FE2O3 :	0.26%
Al2O3 :	0.3%
LOI :	6.0%
FINENESS :	98.5% PASSING THROUGH 325 MESH
PH :	7-9
MOISTURE :	0.38%
ASBESTOS :	FREE

BRATACO
IMPORTER
MANUFACTURER
DISTRIBUTOR

LAMPIRAN AG

Tabel uji r

n	Taraf Signifikan		n	Taraf Signifikan		n	Taraf Signifikan	
	5%	1%		5%	1%		5%	1%
3	0,997	0,999	27	0,381	0,487	55	0,266	0,345
4	0,950	0,990	28	0,374	0,478	60	0,254	0,330
5	0,878	0,959	29	0,367	0,470	65	0,244	0,317
6	0,811	0,917	30	0,361	0,463	70	0,235	0,306
7	0,754	0,874	31	0,355	0,456	75	0,227	0,296
8	0,707	0,834	32	0,349	0,449	80	0,220	0,286
9	0,666	0,798	33	0,344	0,442	85	0,213	0,278
10	0,632	0,765	34	0,339	0,436	90	0,207	0,270
11	0,602	0,735	35	0,334	0,430	95	0,202	0,263
12	0,576	0,708	36	0,329	0,424	10	0,195	0,256
13	0,553	0,684	37	0,325	0,418	12	0,176	0,230
14	0,532	0,661	38	0,320	0,413	15	0,159	0,210
15	0,514	0,641	39	0,316	0,408	17	0,148	0,194
16	0,497	0,623	40	0,312	0,403	20	0,138	0,181
17	0,482	0,606	41	0,308	0,398	30	0,113	0,148
18	0,468	0,590	42	0,304	0,393	40	0,098	0,128
19	0,456	0,575	43	0,301	0,389	50	0,088	0,115
20	0,444	0,561	44	0,297	0,384	60	0,080	0,105
21	0,433	0,549	45	0,294	0,380	700	0,074	0,097
22	0,423	0,537	46	0,291	0,376	800	0,070	0,091
23	0,413	0,526	47	0,288	0,372	900	0,065	0,086
24	0,404	0,515	48	0,284	0,368	000	0,062	0,081
25	0,396	0,505	49	0,281	0,364			
26	0,388	0,496	50	0,279	0,361			

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Tabel F

Titik Persentase Distribusi F untuk Probabilita = 0,05

df untuk penyebut (N2)	df untuk pembilang (N1)														
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	161	199	216	225	230	234	237	239	241	242	243	244	245	245	246
2	18.51	19.00	19.16	19.25	19.30	19.33	19.35	19.37	19.38	19.40	19.40	19.41	19.42	19.42	19.43
3	10.13	9.55	9.28	9.12	9.01	8.94	8.89	8.85	8.81	8.79	8.76	8.74	8.73	8.71	8.70
4	7.71	6.94	6.59	6.39	6.26	6.16	6.09	6.04	6.00	5.96	5.94	5.91	5.89	5.87	5.86
5	6.61	5.79	5.41	5.19	5.05	4.95	4.88	4.82	4.77	4.74	4.70	4.68	4.66	4.64	4.62
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	3.98	3.96	3.94
7	5.59	4.74	4.35	4.12	3.97	3.87	3.79	3.73	3.68	3.64	3.60	3.57	3.55	3.53	3.51
8	5.32	4.46	4.07	3.84	3.69	3.58	3.50	3.44	3.39	3.35	3.31	3.28	3.26	3.24	3.22
9	5.12	4.26	3.86	3.63	3.48	3.37	3.29	3.23	3.18	3.14	3.10	3.07	3.05	3.03	3.01
10	4.96	4.10	3.71	3.48	3.33	3.22	3.14	3.07	3.02	2.98	2.94	2.91	2.89	2.86	2.85
11	4.84	3.98	3.59	3.36	3.20	3.09	3.01	2.95	2.90	2.85	2.82	2.79	2.76	2.74	2.72
12	4.75	3.89	3.49	3.26	3.11	3.00	2.91	2.85	2.80	2.75	2.72	2.69	2.66	2.64	2.62
13	4.67	3.81	3.41	3.18	3.03	2.92	2.83	2.77	2.71	2.67	2.63	2.60	2.58	2.55	2.53
14	4.60	3.74	3.34	3.11	2.96	2.85	2.76	2.70	2.65	2.60	2.57	2.53	2.51	2.48	2.46
15	4.54	3.68	3.29	3.06	2.90	2.79	2.71	2.64	2.59	2.54	2.51	2.48	2.45	2.42	2.40
16	4.49	3.63	3.24	3.01	2.85	2.74	2.66	2.59	2.54	2.49	2.46	2.42	2.40	2.37	2.35
17	4.45	3.59	3.20	2.96	2.81	2.70	2.61	2.55	2.49	2.45	2.41	2.38	2.35	2.33	2.31
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	2.31	2.29	2.27
19	4.38	3.52	3.13	2.90	2.74	2.63	2.54	2.48	2.42	2.38	2.34	2.31	2.28	2.26	2.23
20	4.35	3.49	3.10	2.87	2.71	2.60	2.51	2.45	2.39	2.35	2.31	2.28	2.25	2.22	2.20
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	2.22	2.20	2.18
22	4.30	3.44	3.05	2.82	2.66	2.55	2.46	2.40	2.34	2.30	2.26	2.23	2.20	2.17	2.15
23	4.28	3.42	3.03	2.80	2.64	2.53	2.44	2.37	2.32	2.27	2.24	2.20	2.18	2.15	2.13
24	4.26	3.40	3.01	2.78	2.62	2.51	2.42	2.36	2.30	2.25	2.22	2.18	2.15	2.13	2.11
25	4.24	3.39	2.99	2.76	2.60	2.49	2.40	2.34	2.28	2.24	2.20	2.16	2.14	2.11	2.09
26	4.23	3.37	2.98	2.74	2.59	2.47	2.39	2.32	2.27	2.22	2.18	2.15	2.12	2.09	2.07
27	4.21	3.35	2.96	2.73	2.57	2.46	2.37	2.31	2.25	2.20	2.17	2.13	2.10	2.08	2.06
28	4.20	3.34	2.95	2.71	2.56	2.45	2.36	2.29	2.24	2.19	2.15	2.12	2.09	2.06	2.04
29	4.18	3.33	2.93	2.70	2.55	2.43	2.35	2.28	2.22	2.18	2.14	2.10	2.08	2.05	2.03

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TABEL T

cum. prob	$t_{.50}$	$t_{.75}$	$t_{.80}$	$t_{.85}$	$t_{.90}$	$t_{.95}$	$t_{.975}$	$t_{.99}$	$t_{.995}$	$t_{.999}$	$t_{.9995}$
one-tail	0.50	0.25	0.20	0.15	0.10	0.05	0.025	0.01	0.005	0.001	0.0005
two-tails	1.00	0.50	0.40	0.30	0.20	0.10	0.05	0.02	0.01	0.002	0.001
df											
1	0.000	1.000	1.376	1.963	3.078	6.314	12.71	31.82	63.66	318.31	636.62
2	0.000	0.816	1.061	1.386	1.886	2.920	4.303	6.965	9.925	22.327	31.599
3	0.000	0.765	0.978	1.250	1.638	2.353	3.182	4.541	5.841	10.215	12.924
4	0.000	0.741	0.941	1.190	1.533	2.132	2.776	3.747	4.604	7.173	8.610
5	0.000	0.727	0.920	1.156	1.476	2.015	2.571	3.365	4.032	5.893	6.869
6	0.000	0.718	0.906	1.134	1.440	1.943	2.447	3.143	3.707	5.208	5.959
7	0.000	0.711	0.896	1.119	1.415	1.895	2.365	2.998	3.499	4.785	5.408
8	0.000	0.706	0.889	1.108	1.397	1.860	2.306	2.896	3.355	4.501	5.041
9	0.000	0.703	0.883	1.100	1.383	1.833	2.262	2.821	3.250	4.297	4.781
10	0.000	0.700	0.879	1.093	1.372	1.812	2.228	2.764	3.169	4.144	4.587
11	0.000	0.697	0.876	1.088	1.363	1.796	2.201	2.718	3.106	4.025	4.437
12	0.000	0.695	0.873	1.083	1.356	1.782	2.179	2.681	3.055	3.930	4.318
13	0.000	0.694	0.870	1.079	1.350	1.771	2.160	2.650	3.012	3.852	4.221
14	0.000	0.692	0.868	1.076	1.345	1.761	2.145	2.624	2.977	3.787	4.140
15	0.000	0.691	0.866	1.074	1.341	1.753	2.131	2.602	2.947	3.733	4.073
16	0.000	0.690	0.865	1.071	1.337	1.746	2.120	2.583	2.921	3.686	4.015
17	0.000	0.689	0.863	1.069	1.333	1.740	2.110	2.567	2.898	3.646	3.965
18	0.000	0.688	0.862	1.067	1.330	1.734	2.101	2.552	2.878	3.610	3.922
19	0.000	0.688	0.861	1.066	1.328	1.729	2.093	2.539	2.861	3.579	3.883
20	0.000	0.687	0.860	1.064	1.325	1.725	2.086	2.528	2.845	3.552	3.850
21	0.000	0.686	0.859	1.063	1.323	1.721	2.080	2.518	2.831	3.527	3.819
22	0.000	0.686	0.858	1.061	1.321	1.717	2.074	2.508	2.819	3.505	3.792
23	0.000	0.685	0.858	1.060	1.319	1.714	2.069	2.500	2.807	3.485	3.768
24	0.000	0.685	0.857	1.059	1.318	1.711	2.064	2.492	2.797	3.467	3.745
25	0.000	0.684	0.856	1.058	1.316	1.708	2.060	2.485	2.787	3.450	3.725
26	0.000	0.684	0.856	1.058	1.315	1.706	2.056	2.479	2.779	3.435	3.707
27	0.000	0.684	0.855	1.057	1.314	1.703	2.052	2.473	2.771	3.421	3.690
28	0.000	0.683	0.855	1.056	1.313	1.701	2.048	2.467	2.763	3.408	3.674
29	0.000	0.683	0.854	1.055	1.311	1.699	2.045	2.462	2.756	3.396	3.659
30	0.000	0.683	0.854	1.055	1.310	1.697	2.042	2.457	2.750	3.385	3.646
40	0.000	0.681	0.851	1.050	1.303	1.684	2.021	2.423	2.704	3.307	3.551
60	0.000	0.679	0.848	1.045	1.296	1.671	2.000	2.390	2.660	3.232	3.460
80	0.000	0.678	0.846	1.043	1.292	1.664	1.990	2.374	2.639	3.195	3.416
100	0.000	0.677	0.845	1.042	1.290	1.660	1.984	2.364	2.626	3.174	3.390

LAMPIRAN AJ

HASIL UJI ANAVA KEKERASAN DENGAN DESIGN EXPERT

Response 1Kekerasan

ANOVA for selected factorial model

Analysis of variance table [Partial sum of squares - Type III]

Model	8.47	7	1.21	2.68	0.0483	significant
A-Konsentrasi amilum kulit pisang	3.67	1	3.67	8.13	0.0115	
B-Konsentrasi SSG	0.72	1	0.72	1.60	0.2240	
C-konsentrasi Mg Stearat	3.76	1	3.76	8.34	0.0107	
AB	0.10	1	0.10	0.73	0.6375	
AC	0.13	1	0.13	0.30	0.5917	
BC	0.037	1	0.037	0.82	0.7787	
ABC	0.045	1	0.045	0.100	0.7559	
Pure Error	7.21	16	0.45			
Cor Total	15.68	23				

The Model F-value of 2.68 implies the model is significant. There is only a 4.83% chance that a "Model F-Value" this large could occur due to noise.

Values of "Prob > F" less than 0.0500 indicate model terms are significant.
In this case A, C are significant model terms.
Values greater than 0.1000 indicate the model terms are not significant.
If there are many insignificant model terms (not counting those required to support hierarchy),
model reduction may improve your model.

Std. Dev.	0.67	R-Squared	0.5401
Mean	5.61	Adj R-Squared	0.3389
C.V. %	11.97	Pred R-Squared	-0.0348
PRESS	16.23	Adeq Precision	5.177

A negative "Pred R-Squared" implies that the overall mean is a better predictor of your
response than the current model.

"Adeq Precision" measures the signal to noise ratio. A ratio greater than 4 is desirable. Your
ratio of 5.177 indicates an adequate signal. This model can be used to navigate the design space.

Intercept	5.61	1	0.14	5.32	5.90	
A-Konsentrasi amilum kulit pisang	0.39	1	0.14	0.10	0.68	1.00
B-Konsentrasi SSG	-0.17	1	0.14	-0.46	0.12	1.00
C-konsentrasi Mg Stearat	-0.40	1	0.14	-0.69	-0.11	1.00
AB	0.066	1	0.14	-0.22	0.36	1.00
AC	-0.075	1	0.14	-0.37	0.22	1.00
BC	0.039	1	0.14	-0.25	0.33	1.00

Final Equation in Terms of Coded Factors:

Kekerasan =

+5.78

+0.39 * A

-0.17 * B

-0.40 * C

+0.066 * A * B

-0.075 * A * C

+0.039 * B * C

+0.043 * A * B * C

Final Equation in Terms of Actual Factors:

Kekerasan =

+5.78433

+0.39083 * Konsentrasi amilum kulit pisang

-0.17333 * Konsentrasi SSG

-0.39583 * konsentrasi Mg Stearat

+0.065833 * Konsentrasi amilum kulit pisang * Konsentrasi SSG

-0.075000 * Konsentrasi amilum kulit pisang * konsentrasi Mg Stearat

+0.039167 * Konsentrasi SSG * konsentrasi Mg Stearat

+0.043333 * Konsentrasi amilum kulit pisang * Konsentrasi SSG * konsentrasi Mg Stearat

The Diagnostics Case Statistics Report has been moved to the Diagnostics Node.

In the Diagnostics Node, Select Case Statistics from the View Menu. Proceed to Diagnostic Plots (the next icon in progression). Be sure to look at the:

1) Normal probability plot of the studentized residuals to check for normality of residuals.

2) Studentized residuals versus predicted values to check for constant error.

3) Externally Studentized Residuals to look for outliers, i.e., influential values.

4) Box-Cox plot for power transformations.

If all the model statistics and diagnostic plots are OK, finish up with the Model Graphs icon.

LAMPIRAN AK

HASIL UJI ANAVA KERAPUHAN DENGAN DESIGN EXPERT

Response2Kerapuhan
ANOVA for selected factorial model
Analysis of variance table [Partial sum of squares - Type III]

Model	0.098	7	0.014	7.33	0.0005	Significant
A-Konsentrasi amilum kulit pisang	0.057	1	0.057	30.01	< 0.0001	
B-Konsentrasi SSG	0.011	1	0.011	5.75	0.0290	
C-konsentrasi Mg Stearat	7.921E-003	1	7.921E-003	4.14	0.0588	
AB	4.483E-003	1	4.483E-003	2.34	0.1454	
AC	9.680E-003	1	9.680E-003	5.06	0.0389	
BC	1.980E-003	1	1.980E-003	1.03	0.3241	
ABC	5.643E-003	1	5.643E-003	2.95	0.1052	
Pure Error	0.031	16	1.913E-003			
Cor Total	0.13	23				

The Model F-value of 7.33 implies the model is significant. There is only a 0.05% chance that a "Model F-Value" this large could occur due to noise.

Values of "Prob > F" less than 0.0500 indicate model terms are significant.
In this case A, B, AC are significant model terms.
Values greater than 0.1000 indicate the model terms are not significant.
If there are many insignificant model terms (not counting those required to support hierarchy),
model reduction may improve your model.

Std. Dev.	0.044	R-Squared	0.7622
Mean	0.65	Adj R-Squared	0.6582
C.V. %	6.72	Pred R-Squared	0.4650
PRESS	0.069	Adeq Precision	8.223

The "Pred R-Squared" of 0.4650 is in reasonable agreement with the "Adj R-Squared" of 0.6582.

"Adeq Precision" measures the signal to noise ratio. A ratio greater than 4 is desirable. Your
ratio of 8.223 indicates an adequate signal. This model can be used to navigate the design space.

Intercept	0.65	1	8.929E-003	0.63	0.67	
A-Konsentrasi amilum kulit pisang	-0.049	1	8.929E-003	-0.068	-0.030	1.00
B-Konsentrasi SSG	0.021	1	8.929E-003	2.489E-003	0.040	1.00
C-konsentrasi Mg Stearat	-0.018	1	8.929E-003	-0.037	7.614E-004	1.00
AB	-0.014	1	8.929E-003	-0.033	5.261E-003	1.00
AC	-0.020	1	8.929E-003	-0.039	-1.155E-003	1.00
BC	-9.083E-003	1	8.929E-003	-0.028	9.845E-003	1.00

Final Equation in Terms of Coded Factors:

Kerapuhan =
+0.618
-0.049 * A
+0.021 * B
-0.018 * C
-0.014 * A * B
-0.020 * A * C
-9.083E-003 * B * C
+0.015 * A * B * C

Final Equation in Terms of Actual Factors:

Kerapuhan =
+0.1850
-0.048917 * Konsentrasi amilum kulit pisang
+0.021417 * Konsentrasi SSG
-0.018167 * konsentrasi Mg Stearat

-0.013667 * Konsentrasi amilum kulit pisang * Konsentrasi SSG
-0.020083 * Konsentrasi amilum kulit pisang * konsentrasi Mg Stearat
-9.08333E-003 * Konsentrasi SSG * konsentrasi Mg Stearat
+0.015333 * Konsentrasi amilum kulit pisang * Konsentrasi SSG * konsentrasi Mg Stearat

The Diagnostics Case Statistics Report has been moved to the Diagnostics Node.
In the Diagnostics Node, Select Case Statistics from the View Menu.

Proceed to Diagnostic Plots (the next icon in progression). Be sure to look at the:

1) Normal probability plot of the studentized residuals to check for normality of residuals.
2) Studentized residuals versus predicted values to check for constant error.
3) Externally Studentized Residuals to look for outliers, i.e., influential values.
4) Box-Cox plot for power transformations.

If all the model statistics and diagnostic plots are OK, finish up with the Model Graphs icon.

LAMPIRAN AL

HASIL UJI ANAVA WAKTU HANCUR DENGAN DESIGN EXPERT

Response3Waktu hancur
ANOVA for selected factorial model
Analysis of variance table [Partial sum of squares - Type III]

Model	48.20	7	6.89	536.36	< 0.0001	Significant
A-Konsentrasi amilum kulit pisang	12.17	1	12.17	947.97	< 0.0001	
B-Konsentrasi SSG	7.76	1	7.76	604.75	< 0.0001	
C-konsentrasi Mg Stearat	1.83	1	1.83	142.67	< 0.0001	
AB	4.83	1	4.83	376.48	< 0.0001	
AC	1.90	1	1.90	147.88	< 0.0001	
BC	19.60	1	19.60	1526.96	< 0.0001	
ABC	0.10	1	0.10	7.80	0.0130	
Pure Error	0.21	16	0.013			
Cor Total	48.40	23				

The Model F-value of 536.36 implies the model is significant. There is only
a 0.01% chance that a "Model F-Value" this large could occur due to noise.

Values of "Prob > F" less than 0.0500 indicate model terms are significant.
In this case A, B, C, AB, AC, BC, ABC are significant model terms.
Values greater than 0.1000 indicate the model terms are not significant.
If there are many insignificant model terms (not counting those required to support hierarchy),
model reduction may improve your model.

Std. Dev.	0.11	R-Squared	0.9958
Mean	4.01	Adj R-Squared	0.9939
C.V. %	2.82	Pred R-Squared	0.9905
PRESS	0.46	Adeq Precision	58.192

The "Pred R-Squared" of 0.9905 is in reasonable agreement with the "Adj R-Squared" of 0.9939.

"Adeq Precision" measures the signal to noise ratio. A ratio greater than 4 is desirable. Your
ratio of 58.192 indicates an adequate signal. This model can be used to navigate the design space.

Intercept	4.01	1	0.023	3.96	4.06	
A-Konsentrasi amilum kulit pisang	0.71	1	0.023	0.66	0.76	1.00
B-Konsentrasi SSG	-0.57	1	0.023	-0.62	-0.52	1.00
C-konsentrasi Mg Stearat	-0.28	1	0.023	-0.33	-0.23	1.00
AB	-0.45	1	0.023	-0.50	-0.40	1.00
AC	-0.28	1	0.023	-0.33	-0.23	1.00
BC	-0.90	1	0.023	-0.95	-0.85	1.00

Final Equation in Terms of Coded Factors:

Waktu hancur =
+4.128
+0.71 * A
-0.57 * B
-0.28 * C
-0.45 * A * B
-0.28 * A * C
-0.90 * B * C
+0.065 * A * B * C

Final Equation in Terms of Actual Factors:

Waktu hancur =
+4.12800
+0.71208 * Konsentrasi amilum kulit pisang
-0.56875 * Konsentrasi SSG
-0.27625 * konsentrasi Mg Stearat
-0.44875 * Konsentrasi amilum kulit pisang * Konsentrasi SSG

-0.28125 * Konsentrasi amilum kulit pisang * konsentrasi Mg Stearat
-0.90375 * Konsentrasi SSG * konsentrasi Mg Stearat
+0.064583 * Konsentrasi amilum kulit pisang * Konsentrasi SSG * konsentrasi Mg Stearat

The Diagnostics Case Statistics Report has been moved to the Diagnostics Node.
In the Diagnostics Node, Select Case Statistics from the View Menu.

Proceed to Diagnostic Plots (the next icon in progression). Be sure to look at the:

1) Normal probability plot of the studentized residuals to check for normality of residuals.
2) Studentized residuals versus predicted values to check for constant error.
3) Externally Studentized Residuals to look for outliers, i.e., influential values.
4) Box-Cox plot for power transformations.

If all the model statistics and diagnostic plots are OK, finish up with the Model Graphs icon.

LAMPIRAN AM

HASIL UJI ANAVA %ED_{60} DENGAN DESIGN EXPERT

Response 4 ED60

ANOVA for selected factorial model

Analysis of variance table [Partial sum of squares - Type III]

Model	105.28	7	15.04	6.03	0.0014	Significant
A-Konsentrasi amilum kulit pisang	15.64	1	15.64	6.28	0.0234	
B-Konsentrasi SSG	26.19	1	26.19	10.51	0.0051	
C-konsentrasi Mg Stearat	27.20	1	27.20	10.91	0.0045	
AB	28.02	1	28.02	11.24	0.0040	
AC	7.89	1	7.89	3.17	0.0942	
BC	0.34	1	0.34	0.14	0.7152	
ABC	3.115E-003	1	3.115E-003	1.250E-003	0.9722	
Pure Error	39.88	16	2.49			
Cor Total	145.16	23				

The Model F-value of 6.03 implies the model is significant. There is only a 0.14% chance that a "Model F-Value" this large could occur due to noise.

Values of "Prob > F" less than 0.0500 indicate model terms are significant.
In this case A, B, C, AB are significant model terms.
Values greater than 0.1000 indicate the model terms are not significant.
If there are many insignificant model terms (not counting those required to support hierarchy),
model reduction may improve your model.

Std. Dev.	1.58	R-Squared
Mean88.29	Adj R-Squared	0.6051
C.V. %1.79	Pred R-Squared	0.3818
PRESS89.74	Adeq Precision	8.256

The "Pred R-Squared" of 0.3818 is not as close to the "Adj R-Squared" of 0.6051 as one might

normally expect. This may indicate a large block effect or a possible problem with your model
and/or data. Things to consider are model reduction, response tranformation, outliers, etc.

"Adeq Precision" measures the signal to noise ratio. A ratio greater than 4 is desirable. Your
ratio of 8.256 indicates an adequate signal. This model can be used to navigate the design space.

Intercept	88.29	1	0.32	87.61	88.97	
A-Konsentrasi amilum kulit pisang	-0.81	1	0.32	-1.49	-0.12	1.00
B-Konsentrasi SSG	1.04	1	0.32	0.36	1.73	1.00
C-konsentrasi Mg Stearat	1.06	1	0.32	0.38	1.75	1.00
AB	-1.08	1	0.32	-1.76	-0.40	1.00
AC	-0.57	1	0.32	-1.26	0.11	1.00
BC	0.12	1	0.32	-0.56	0.80	1.00

Final Equation in Terms of Coded Factors:

ED60 =

+87,92

-0.81 * A

+1.04 * B

+1.06 * C

-1.08 * A * B

-0.57 * A * C

+0.12 * B * C

+0.011 * A * B * C

Final Equation in Terms of Actual Factors:

ED60 =

+87.92113

-0.80737 * Konsentrasi amilum kulit pisang

+1.04459 * Konsentrasi SSG

+1.06451 * konsentrasi Mg Stearat

-1.08042 * Konsentrasi amilum kulit pisang * Konsentrasi SSG

-0.57338 * Konsentrasi amilum kulit pisang * konsentrasi Mg Stearat

+0.11970 * Konsentrasi SSG * konsentrasi Mg Stearat

+0.011392 * Konsentrasi amilum kulit pisang * Konsentrasi SSG * konsentrasi Mg Stearat

The Diagnostics Case Statistics Report has been moved to the Diagnostics Node.

In the Diagnostics Node, Select Case Statistics from the View Menu. Proceed to Diagnostic Plots (the next icon in progression). Be sure to look at the:

1) Normal probability plot of the studentized residuals to check for normality of residuals.

2) Studentized residuals versus predicted values to check for constant error.

3) Externally Studentized Residuals to look for outliers, i.e., influential values.

4) Box-Cox plot for power transformations.

If all the model statistics and diagnostic plots are OK, finish up with the Model Graphs icon.

LAMPIRAN AN

HASIL UJI STATISTIK KEKERASAN TABLET METFORMIN HCl

(One Way Anova)

Multiple Comparisons

Kekerasan
Tukey HSD

(I) formula	(J) formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-.88667	.54463	.729	-2.7723	.9989
	3	.47000	.54463	.986	-1.4156	2.3556
	4	-.50667	.54463	.978	-2.3923	1.3789
	5	.63333	.54463	.931	-1.2523	2.5189
	6	.22000	.54463	1.000	-1.6656	2.1056
	7	1.12000	.54463	.478	-.7656	3.0056
	8	.21667	.54463	1.000	-1.6689	2.1023
2	1	.88667	.54463	.729	-.9989	2.7723
	3	1.35667	.54463	.266	-.5289	3.2423
	4	.38000	.54463	.996	-1.5056	2.2656
	5	1.52000	.54463	.165	-.3656	3.4056
	6	1.10667	.54463	.492	-.7789	2.9923
	7	2.00667*	.54463	.033	.1211	3.8923
	8	1.10333	.54463	.496	-.7823	2.9889
3	1	-.47000	.54463	.986	-2.3556	1.4156
	2	-1.35667	.54463	.266	-3.2423	.5289
	4	-.97667	.54463	.633	-2.8623	.9089
	5	.16333	.54463	1.000	-1.7223	2.0489
	6	-.25000	.54463	1.000	-2.1356	1.6356
	7	.65000	.54463	.923	-1.2356	2.5356
	8	-.25333	.54463	1.000	-2.1389	1.6323
4	1	.50667	.54463	.978	-1.3789	2.3923
	2	-.38000	.54463	.996	-2.2656	1.5056
	3	.97667	.54463	.633	-.9089	2.8623
	5	1.14000	.54463	.458	-.7456	3.0256
	6	.72667	.54463	.873	-1.1589	2.6123
	7	1.62667	.54463	.118	-.2589	3.5123
	8	.72333	.54463	.875	-1.1623	2.6089

	1	-.63333	.54463	.931	-2.5189	1.2523
	2	-1.52000	.54463	.165	-3.4056	.3656
	3	-.16333	.54463	1.000	-2.0489	1.7223
5	4	-1.14000	.54463	.458	-3.0256	.7456
	6	-.41333	.54463	.993	-2.2989	1.4723
	7	.48667	.54463	.982	-1.3989	2.3723
	8	-.41667	.54463	.993	-2.3023	1.4689
	1	-.22000	.54463	1.000	-2.1056	1.6656
	2	-1.10667	.54463	.492	-2.9923	.7789
	3	.25000	.54463	1.000	-1.6356	2.1356
6	4	-.72667	.54463	.873	-2.6123	1.1589
	5	.41333	.54463	.993	-1.4723	2.2989
	7	.90000	.54463	.715	-.9856	2.7856
	8	-.00333	.54463	1.000	-1.8889	1.8823
	1	-1.12000	.54463	.478	-3.0056	.7656
	2	-2.00667*	.54463	.033	-3.8923	-.1211
	3	-.65000	.54463	.923	-2.5356	1.2356
7	4	-1.62667	.54463	.118	-3.5123	.2589
	5	-.48667	.54463	.982	-2.3723	1.3989
	6	-.90000	.54463	.715	-2.7856	.9856
	8	-.90333	.54463	.711	-2.7889	.9823
	1	-.21667	.54463	1.000	-2.1023	1.6689
	2	-1.10333	.54463	.496	-2.9889	.7823
	3	.25333	.54463	1.000	-1.6323	2.1389
8	4	-.72333	.54463	.875	-2.6089	1.1623
	5	.41667	.54463	.993	-1.4689	2.3023
	6	.00333	.54463	1.000	-1.8823	1.8889
	7	.90333	.54463	.711	-.9823	2.7889

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

Keterangan :

Hasil uji HSD Tukey dari kedelapan formula, diperoleh nilai sig.< α (0,05) sehingga H_0 ditolak (*), berarti rata-rata kekerasan tablet metformin HCldari kedelapan formula menunjukkan bahwa ada perbedaan yang signifikan antar formula yaitu formula 2 menunjukkan perbedaan yang signifikan terhadap formula 7dan formula 7 menunjukkan perbedaan yang signifikan terhadap formula 2.

LAMPIRAN AO

HASIL UJI STATISTIK KERAPUHAN TABLET MTFORMIN HCL

(One Way Anova)

Multiple Comparisons

Kerapuhan
Tukey HSD

(I) formula	(J) formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-.00033	.03571	1.000	-.1240	.1233
	3	-.11900	.03571	.064	-.2427	.0047
	4	-.00333	.03571	1.000	-.1270	.1203
	5	-.05267	.03571	.810	-.1763	.0710
	6	.08867	.03571	.269	-.0350	.2123
	7	-.07400	.03571	.470	-.1977	.0497
	8	.06067	.03571	.688	-.0630	.1843
2	1	.00033	.03571	1.000	-.1233	.1240
	3	-.11867	.03571	.065	-.2423	.0050
	4	-.00300	.03571	1.000	-.1267	.1207
	5	-.05233	.03571	.814	-.1760	.0713
	6	.08900	.03571	.266	-.0347	.2127
	7	-.07367	.03571	.475	-.1973	.0500
	8	.06100	.03571	.683	-.0627	.1847
3	1	.11900	.03571	.064	-.0047	.2427
	2	.11867	.03571	.065	-.0050	.2423
	4	.11567	.03571	.076	-.0080	.2393
	5	.06633	.03571	.595	-.0573	.1900
	6	.20767*	.03571	.001	.0840	.3313
	7	.04500	.03571	.901	-.0787	.1687
	8	.17967*	.03571	.002	.0560	.3033
4	1	.00333	.03571	1.000	-.1203	.1270
	2	.00300	.03571	1.000	-.1207	.1267
	3	-.11567	.03571	.076	-.2393	.0080
	5	-.04933	.03571	.853	-.1730	.0743
	6	.09200	.03571	.234	-.0317	.2157
	7	-.07067	.03571	.523	-.1943	.0530
	8	.06400	.03571	.634	-.0597	.1877

	1	.05267	.03571	.810	-.0710	.1763
	2	.05233	.03571	.814	-.0713	.1760
	3	-.06633	.03571	.595	-.1900	.0573
5	4	.04933	.03571	.853	-.0743	.1730
	6	.14133*	.03571	.019	.0177	.2650
	7	-.02133	.03571	.998	-.1450	.1023
	8	.11333	.03571	.085	-.0103	.2370
	1	-.08867	.03571	.269	-.2123	.0350
	2	-.08900	.03571	.266	-.2127	.0347
	3	-.20767*	.03571	.001	-.3313	-.0840
6	4	-.09200	.03571	.234	-.2157	.0317
	5	-.14133*	.03571	.019	-.2650	-.0177
	7	-.16267*	.03571	.006	-.2863	-.0390
	8	-.02800	.03571	.992	-.1517	.0957
	1	.07400	.03571	.470	-.0497	.1977
	2	.07367	.03571	.475	-.0500	.1973
	3	-.04500	.03571	.901	-.1687	.0787
7	4	.07067	.03571	.523	-.0530	.1943
	5	.02133	.03571	.998	-.1023	.1450
	6	.16267*	.03571	.006	.0390	.2863
	8	.13467*	.03571	.028	.0110	.2583
	1	-.06067	.03571	.688	-.1843	.0630
	2	-.06100	.03571	.683	-.1847	.0627
	3	-.17967*	.03571	.002	-.3033	-.0560
8	4	-.06400	.03571	.634	-.1877	.0597
	5	-.11333	.03571	.085	-.2370	.0103
	6	.02800	.03571	.992	-.0957	.1517
	7	-.13467*	.03571	.028	-.2583	-.0110

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

Keterangan :

Hasil uji HSD Tukey dari kedelapan formula, diperoleh nilai sig.< α (0,05) sehingga H_0 ditolak (*), berarti rata-rata kerapuhan tablet metformin HCldari kedelapan formula menunjukkan bahwa ada perbedaan yang signifikan antar formula yaitu formula 3 menunjukkan perbedaan yang signifikan terhadap formula 6 dan formula 8; formula 5 menunjukkan perbedaan yang signifikan terhadap formula 6; formula 6 menunjukkan perbedaan yang signifikan terhadap formula 3, formula 5, dan formula 7; formula 7 menunjukkan perbedaan yang signifikan terhadap formula 6 dan formula 7;formula 8 menunjukkan perbedaan yang signifikan terhadap formula 3 dan formula 7.

LAMPIRAN AP

HASIL UJI STATISTIK WAKTU HANCUR TABLET MTFORMIN HCL

(One Way Anova)

Multiple Comparisons

waktu_hancur
Tukey HSD

(I) formula	(J) formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-3.02000*	.09281	.000	-3.3413	-2.6987
	3	-1.70333*	.09281	.000	-2.0247	-1.3820
	4	-2.66333*	.09281	.000	-2.9847	-2.3420
	5	-1.95333*	.09281	.000	-2.2747	-1.6320
	6	-3.58333*	.09281	.000	-3.9047	-3.2620
	7	.22333	.09281	.301	-.0980	.5447
	8	.13000	.09281	.844	-.1913	.4513
2	1	3.02000*	.09281	.000	2.6987	3.3413
	3	1.31667*	.09281	.000	.9953	1.6380
	4	.35667*	.09281	.024	.0353	.6780
	5	1.06667*	.09281	.000	.7453	1.3880
	6	-.56333*	.09281	.000	-.8847	-.2420
	7	3.24333*	.09281	.000	2.9220	3.5647
	8	3.15000*	.09281	.000	2.8287	3.4713
3	1	1.70333*	.09281	.000	1.3820	2.0247
	2	-1.31667*	.09281	.000	-1.6380	-.9953
	4	-.96000*	.09281	.000	-1.2813	-.6387
	5	-.25000	.09281	.194	-.5713	.0713
	6	-1.88000*	.09281	.000	-2.2013	-1.5587
	7	1.92667*	.09281	.000	1.6053	2.2480
	8	1.83333*	.09281	.000	1.5120	2.1547
4	1	2.66333*	.09281	.000	2.3420	2.9847
	2	-.35667*	.09281	.024	-.6780	-.0353
	3	.96000*	.09281	.000	.6387	1.2813
	5	.71000*	.09281	.000	.3887	1.0313
	6	-.92000*	.09281	.000	-1.2413	-.5987
	7	2.88667*	.09281	.000	2.5653	3.2080

	8	2.79333*	.09281	.000	2.4720	3.1147
	1	1.95333*	.09281	.000	1.6320	2.2747
	2	-1.06667*	.09281	.000	-1.3880	-.7453
	3	.25000	.09281	.194	-.0713	.5713
5	4	-.71000*	.09281	.000	-1.0313	-.3887
	6	-1.63000*	.09281	.000	-1.9513	-1.3087
	7	2.17667*	.09281	.000	1.8553	2.4980
	8	2.08333*	.09281	.000	1.7620	2.4047
	1	3.58333*	.09281	.000	3.2620	3.9047
	2	.56333*	.09281	.000	.2420	.8847
	3	1.88000*	.09281	.000	1.5587	2.2013
6	4	.92000*	.09281	.000	.5987	1.2413
	5	1.63000*	.09281	.000	1.3087	1.9513
	7	3.80667*	.09281	.000	3.4853	4.1280
	8	3.71333*	.09281	.000	3.3920	4.0347
	1	-.22333	.09281	.301	-.5447	.0980
	2	-3.24333*	.09281	.000	-3.5647	-2.9220
	3	-1.92667*	.09281	.000	-2.2480	-1.6053
7	4	-2.88667*	.09281	.000	-3.2080	-2.5653
	5	-2.17667*	.09281	.000	-2.4980	-1.8553
	6	-3.80667*	.09281	.000	-4.1280	-3.4853
	8	-.09333	.09281	.967	-.4147	.2280
	1	-.13000	.09281	.844	-.4513	.1913
	2	-3.15000*	.09281	.000	-3.4713	-2.8287
	3	-1.83333*	.09281	.000	-2.1547	-1.5120
8	4	-2.79333*	.09281	.000	-3.1147	-2.4720
	5	-2.08333*	.09281	.000	-2.4047	-1.7620
	6	-3.71333*	.09281	.000	-4.0347	-3.3920
	7	.09333	.09281	.967	-.2280	.4147

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

Keterangan :

Hasil uji HSD Tukey dari kedelapan formula, diperoleh nilai sig.< α (0,05) sehingga H_0 ditolak (*), berarti rata-rata waktu hancur tablet metformin HCl dari kedelapan formula menunjukkan bahwa ada perbedaan yang signifikan antar formula yaitu formula 1 menunjukkan perbedaan yang signifikan terhadap formula 2, formula 3, formula 4, formula 5, dan formula 6; formula 2 menunjukkan perbedaan yang signifikan terhadap formula 1, formula 3, formula 4, formula 5, formula 6, formula 7, dan formula 8; formula 3 menunjukkan perbedaan yang signifikan terhadap formula 1, formula 2, formula 4, formula 6, formula 7, dan formula 8; formula

4menunjukkan perbedaan yang signifikan terhadap formula 1, formula 2, formula 3, formula 5, formula 6, formula 7, dan formula 8; formula 5 menunjukkan perbedaan yang signifikan terhadap formula 1, formula 2, formula 4, dan formula 6, formula 7, dan formula 8; formula 6 menunjukkan perbedaan yang signifikan terhadap formula 1, formula 2, formula 3, formula 4, formula 5, formula 7, dan formula 8; formula 7 menunjukkan perbedaan yang signifikan terhadap formula 2, formula 3, formula 4, formula 5, formula 6, dan formula 7; dan 8 menunjukkan perbedaan yang signifikan terhadap formula 2, formula 3, formula 4, formula 5, formula 6, dan formula 7.

LAMPIRAN AQ

HASIL UJI STATISTIK ED_{60} TABLET METFORMIN HCL

(One Way Anova)

Multiple Comparisons

ED60
Tukey HSD

(I) formula	(J) formula	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	-2.05167	1.26642	.733	-6.4362	2.3329
	3	-4.36833	1.26642	.051	-8.7529	.0162
	4	-1.71500	1.26642	.865	-6.0996	2.6696
	5	-3.39500	1.26642	.198	-7.7796	.9896
	6	-2.77167	1.26642	.406	-7.1562	1.6129
	7	-7.86167*	1.26642	.000	-12.2462	-3.4771
	8	-2.96167	1.26642	.332	-7.3462	1.4229
2	1	2.05167	1.26642	.733	-2.3329	6.4362
	3	-2.31667	1.26642	.611	-6.7012	2.0679
	4	.33667	1.26642	1.000	-4.0479	4.7212
	5	-1.34333	1.26642	.956	-5.7279	3.0412
	6	-.72000	1.26642	.999	-5.1046	3.6646
	7	-5.81000*	1.26642	.006	-10.1946	-1.4254
	8	-.91000	1.26642	.995	-5.2946	3.4746
3	1	4.36833	1.26642	.051	-.0162	8.7529
	2	2.31667	1.26642	.611	-2.0679	6.7012
	4	2.65333	1.26642	.457	-1.7312	7.0379
	5	.97333	1.26642	.993	-3.4112	5.3579
	6	1.59667	1.26642	.900	-2.7879	5.9812
	7	-3.49333	1.26642	.174	-7.8779	.8912
	8	1.40667	1.26642	.945	-2.9779	5.7912
4	1	1.71500	1.26642	.865	-2.6696	6.0996
	2	-.33667	1.26642	1.000	-4.7212	4.0479
	3	-2.65333	1.26642	.457	-7.0379	1.7312
	5	-1.68000	1.26642	.876	-6.0646	2.7046
	6	-1.05667	1.26642	.988	-5.4412	3.3279
	7	-6.14667*	1.26642	.003	-10.5312	-1.7621
	8	-1.24667	1.26642	.970	-5.6312	3.1379

	1	3.39500	1.26642	.198	-.9896	7.7796
	2	1.34333	1.26642	.956	-3.0412	5.7279
	3	-.97333	1.26642	.993	-5.3579	3.4112
5	4	1.68000	1.26642	.876	-2.7046	6.0646
	6	.62333	1.26642	1.000	-3.7612	5.0079
	7	-4.46667*	1.26642	.044	-8.8512	-.0821
	8	.43333	1.26642	1.000	-3.9512	4.8179
	1	2.77167	1.26642	.406	-1.6129	7.1562
	2	.72000	1.26642	.999	-3.6646	5.1046
	3	-1.59667	1.26642	.900	-5.9812	2.7879
6	4	1.05667	1.26642	.988	-3.3279	5.4412
	5	-.62333	1.26642	1.000	-5.0079	3.7612
	7	-5.09000*	1.26642	.017	-9.4746	-.7054
	8	-.19000	1.26642	1.000	-4.5746	4.1946
	1	7.86167*	1.26642	.000	3.4771	12.2462
	2	5.81000*	1.26642	.006	1.4254	10.1946
	3	3.49333	1.26642	.174	-.8912	7.8779
7	4	6.14667*	1.26642	.003	1.7621	10.5312
	5	4.46667*	1.26642	.044	.0821	8.8512
	6	5.09000*	1.26642	.017	.7054	9.4746
	8	4.90000*	1.26642	.023	.5154	9.2846
	1	2.96167	1.26642	.332	-1.4229	7.3462
	2	.91000	1.26642	.995	-3.4746	5.2946
	3	-1.40667	1.26642	.945	-5.7912	2.9779
8	4	1.24667	1.26642	.970	-3.1379	5.6312
	5	-.43333	1.26642	1.000	-4.8179	3.9512
	6	.19000	1.26642	1.000	-4.1946	4.5746
	7	-4.90000*	1.26642	.023	-9.2846	-.5154

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

Keterangan :

Hasil uji HSD Tukey dari kedelapan formula, diperoleh nilai sig.< α (0,05) sehingga H_0 ditolak (*), berarti rata-rata ED_{60} tablet metformin HCl dari kedelapan formula menunjukkan bahwa ada perbedaan yang signifikan antar formula yaitu formula 1 menunjukkan perbedaan yang signifikan terhadap formula 7; formula 2 menunjukkan perbedaan yang signifikan

terhadap formula 7; formula 4 menunjukkan perbedaan yang signifikan terhadap formula 7; formula 5 menunjukkan perbedaan yang signifikan terhadap formula 7; formula 6 menunjukkan perbedaan yang signifikan terhadap formula 7; formula 7 menunjukkan perbedaan yang signifikan terhadap formula 1, formula 2, formula 4, formula 5, formula 7, dan formula 8; formula 8 menunjukkan perbedaan yang signifikan terhadap formula 7.

LAMPIRAN AR

SURAT KETERANGAN HASIL UJI KADAR AMILOSA, KADAR ABU, DAN DERAJAT PUTIH TANAMAN PISANG AGUNG

LABORATORIUM PENGUJIAN MUTU dan KEAMANAN PANGAN
(Testing Laboratory of Food Quality and Food Safety)
JURUSAN TEKNOLOGI HASIL PERTANIAN
FAKULTAS TEKNOLOGI PERTANIAN
UNIVERSITAS BRAWIJAYA
Jl. Veteran, Malang 65145, Telp/Fax. (0341) 573358
E-mail : labuppangan_thpub@yahoo.com

KEPADA : Anastasia Caroline D.R.
TO UWM
SURABAYA

LAPORAN HASIL UJI
REPORT OF ANALYSIS

Nomor / *Number* : 4827/THP/LAB/2014
Nomor Analisis / *Analysis Number* : 4827
Tanggal penerbitan / *Date of issue* : 15 Oktober 2014
Yang bertanda tangan di bawah ini menerangkan, bahwa hasil pengujian
The undersigned ratifies that examination
Dari contoh / *of the sample (s) of* : Amilum Kulit Pisang
Untuk analisis / *For analysis* :
Keterangan contoh / *Description of sample* :
Diambil dari / *Taken from* : -
Oleh / *By* : -
Tanggal penerimaan contoh / *Received* : 01 Oktober 2014
Tanggal pelaksanaan analisis / *Date of analysis* : 01 Oktober 2014
Hasil adalah sebagai berikut / *Resulted as follows*

Kode	Amilosa (%)	Abu (%)	Warna		
			L*	a*	b*
A1	36,43	1,40	50,3	13,6	16,0
A2	34,38	1,08	55,6	13,8	16,6
A3	34,20	1,56	51,6	20,3	13,9
A4	29,88	1,8	57,6	17,5	17,3

HASIL PENGUJIAN INI HANYA BERLAKU UNTUK CONTOH-CONTOH TERSEBUT DI ATAS. PENGAMBIL CONTOH BERTANGGUNG JAWAB ATAS KEBENARAN TANDING SARANG.

Ketua,

Dr. Ir. Sudarminto Setyo Yuwono, M.Sc.
NIP. 19631216 198803 1 002

LAMPIRAN AS

SERTIFIKAT PENGUJIAN KADAR AIR TANAMAN PISANG AGUNG

UNIT LAYANAN PENGUJIAN
FAKULTAS FARMASI UNIVERSITAS AIRLANGGA
ASSESSMENT SERVICE UNIT
FACULTY OF PHARMACY AIRLANGGA UNIVERSITY
Jl. Dharmawangsa Dalam, Surabaya 60286, Indonesia. Telp./Fax:+62 31 5036779; email: ulpffua@yahoo.com

SERTIFIKAT PENGUJIAN
No. 1519/SA/X/2014*

1. No. Surat Permohonan : -
2. Tanggal Surat Permohonan : 13 Oktober 2014
3. Tanggal sampel dikerjakan : 13 Oktober 2014
4. Nama Pemilik Sampel : **RIZKA MUHITA P**
   S1 Farmasi Widya Mandala Surabaya
5. Jenis/Nama Sampel/Kode : **AMILUM KULIT PISANG**
6. Keperluan Uji : -
7. Parameter yang diuji : Kadar Air
8. Hasil :

Jenis pemeriksaan	Metode	Hasil
Kadar Air	Farmakope Indonesia IV	(9,36 ± 0,3) % b/b

Surabaya, 17 Oktober 2014

Dr. Ir. Hj. Mat. M. Yuwono, MS.

UNIT LAYANAN PENGUJIAN
FAKULTAS FARMASI
UNIVERSITAS AIRLANGGA

SERTIFIKAT PENGUJIAN

No. 0002/SA/I/2015*

1. No. Surat Permohonan : -
2. Tanggal Surat Permohonan : 5 Januari 2015
3. Tanggal sampel dikerjakan : 5 Januari 2015
4. Nama Pemilik Sampel : **RIZKA MUHITA P**
   S1 Farmasi Widya Mandala Surabaya
5. Jenis/Nama Sampel/Kode : **AMILUM KULIT PISANG**
6. Keperluan Uji : -
7. Parameter yang diuji : Kadar Air
8. Hasil :

Kode Sampel	Jenis pemeriksaan	Metode	Hasil
A2	Kadar Air	Farmakope Indonesia IV	(13,30 ± 0,16) % b/b
A3			(13,14 ± 0,01) % b/b

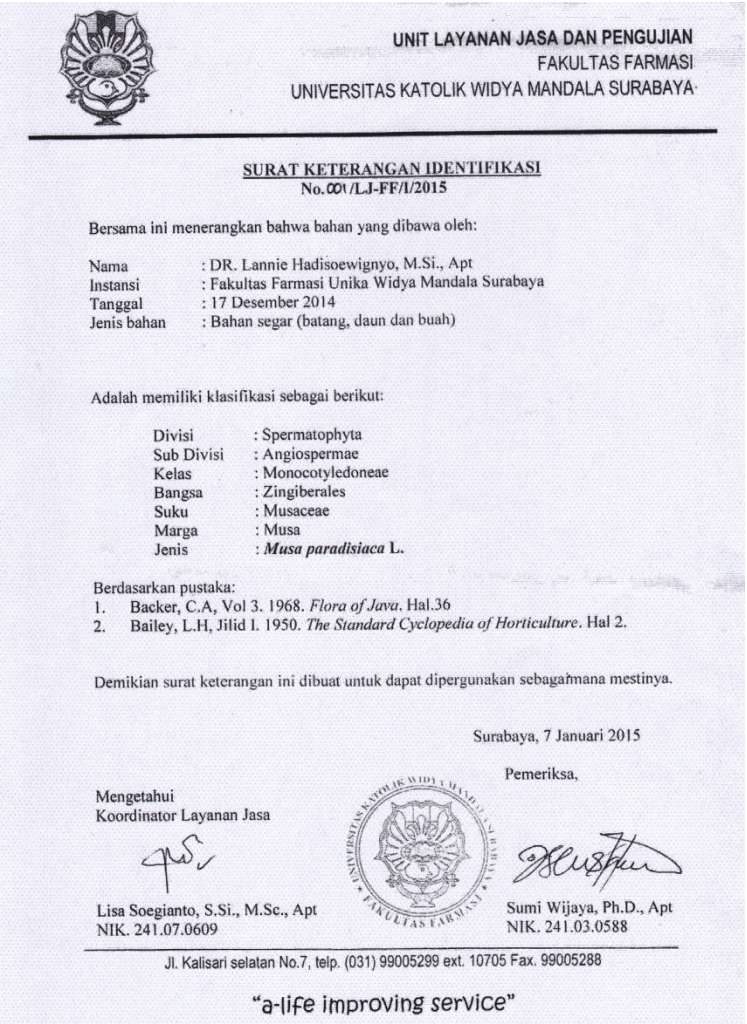
Surabaya, 8 Januari 2015
Direktur,

Dr. ter. nat. M. Yuwono, MS.

Jl. Dharmawangsa Dalam, Surabaya 60286
Telp / Fax : 031-5036779, E-mail : ulpffua@yahoo.com

LAMPIRAN AT

SURAT KETERANGAN DETERMINASI TANAMAN PISANG AGUNG



UNIT LAYANAN JASA DAN PENGUJIAN
FAKULTAS FARMASI
UNIVERSITAS KATOLIK WIDYA MANDALA SURABAYA

SURAT KETERANGAN IDENTIFIKASI
No. 001/LJ-FF/I/2015

Bersama ini menerangkan bahwa bahan yang dibawa oleh:

Nama : DR. Lannie Hadisoewignyo, M.Si., Apt
Instansi : Fakultas Farmasi Unika Widya Mandala Surabaya
Tanggal : 17 Desember 2014
Jenis bahan : Bahan segar (batang, daun dan buah)

Adalah memiliki klasifikasi sebagai berikut:

Divisi : Spermatophyta
Sub Divisi : Angiospermae
Kelas : Monocotyledoneae
Bangsa : Zingiberales
Suku : Musaceae
Marga : Musa
Jenis : ***Musa paradisiaca* L.**

Berdasarkan pustaka:
1. Backer, C.A, Vol 3. 1968. *Flora of Java*. Hal.36
2. Bailey, L.H, Jilid I. 1950. *The Standard Cyclopedia of Horticulture*. Hal 2.

Demikian surat keterangan ini dibuat untuk dapat dipergunakan sebagaimana mestinya.

Surabaya, 7 Januari 2015

Pemeriksa,

Mengetahui
Koordinator Layanan Jasa

Lisa Soegianto, S.Si., M.Sc., Apt
NIK. 241.07.0609

Sumi Wijaya, Ph.D., Apt
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