

LAMPIRAN A.
PERHITUNGAN PROSENTASE HASIL SINTESIS

Reaksi:

Piroksikam + 3-klorobenzoil klorida → O-(3-klorobenzoil)piroksikam

M: 0,010 mol	0,017 mol	-
B : 0,010 mol	0,010 mol	0,010 mol
<hr/>		
S: -	0,007 mol	0,010 mol

BM O-(3-klorobenzoil)piroksikam = 469,90

Berat teoritis O-(3-klorobenzoil)piroksikam = 0,010 mol × 469,90
= 4,6990 gram

Hasil O-(3-klorobenzoil)piroksikam yang didapat = 2,5500 gram

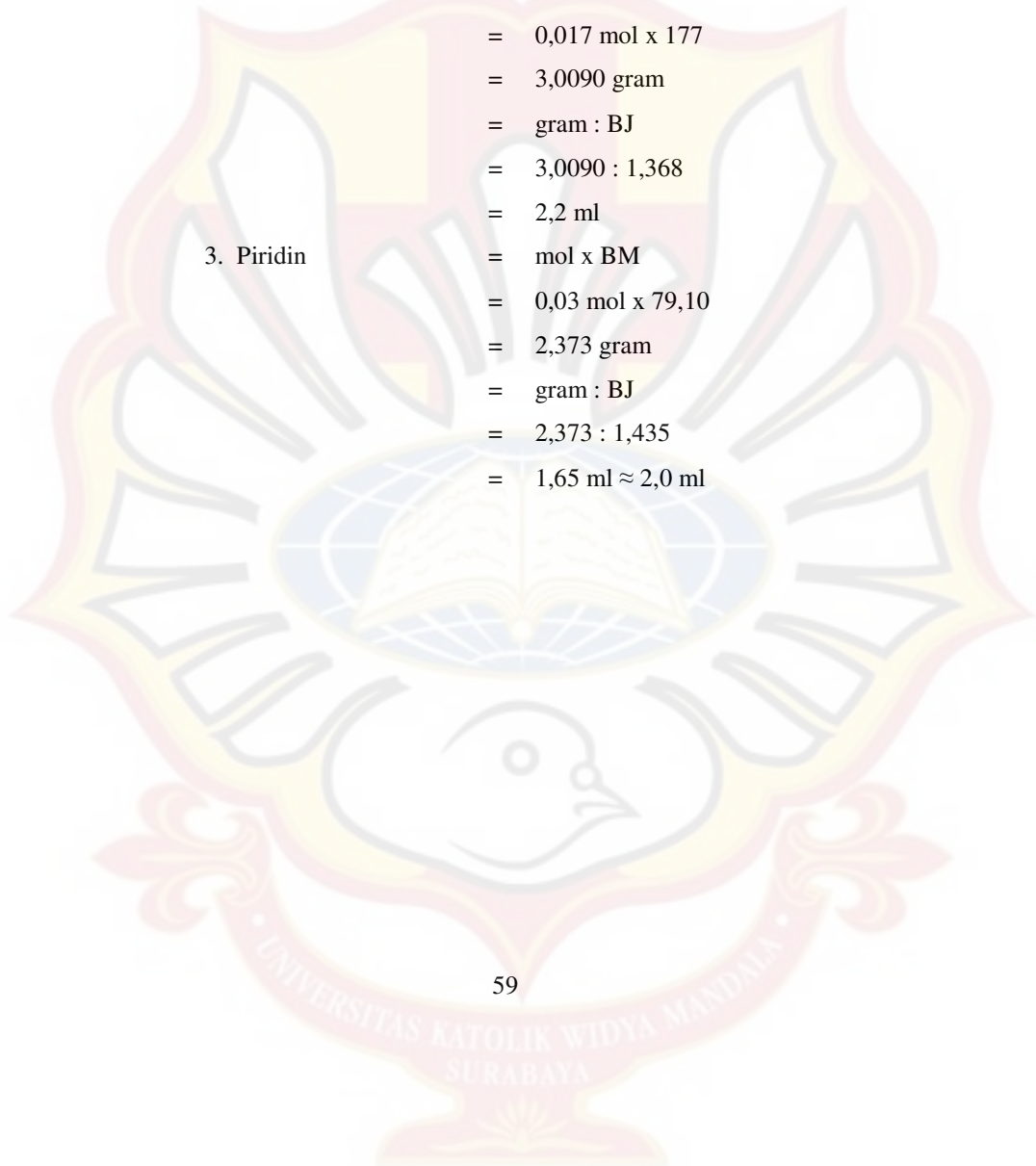
Jadi, prosentase hasil = $\frac{\text{Berat senyawa hasil sintesis}}{\text{Berat senyawa secara teoritis}} \times 100\%$
 $= \frac{2,5500}{4,6990} \times 100\%$
 $= 53,20 \%$

LAMPIRAN B.
PERHITUNGAN BERAT

1. Piroksikam = mol x BM
= 0,010 mol x 331,35
= 3,3135 gram

2. 3-klorobenzoil klorida = mol x BM
= 0,017 mol x 177
= 3,0090 gram
= gram : BJ
= 3,0090 : 1,368
= 2,2 ml

3. Piridin = mol x BM
= 0,03 mol x 79,10
= 2,373 gram
= gram : BJ
= 2,373 : 1,435
= 1,65 ml \approx 2,0 ml



LAMPIRAN C.
PERHITUNGAN PROSENTASE HAMBATAN NYERI

Piroksikam	O-(3-klorobenzoil)piroksikam
Dosis 1 mg/kg BB % hambatan nyeri = $\frac{89,8 - 71,2}{89,8} \times 100 \% = 20,71 \%$	Dosis 1 mg/kg BB % hambatan nyeri = $\frac{89,8 - 70,4}{89,8} \times 100 \% = 21,60 \%$
Dosis 2 mg/kg BB % hambatan nyeri = $\frac{89,8 - 58,6}{89,8} \times 100 \% = 36,75 \%$	Dosis 2 mg/kg BB % hambatan nyeri = $\frac{89,8 - 56,2}{89,8} \times 100 \% = 37,42 \%$
Dosis 3 mg/kg BB % hambatan nyeri = $\frac{89,8 - 49}{89,8} \times 100 \% = 45,43 \%$	Dosis 3 mg/kg BB % hambatan nyeri = $\frac{89,8 - 47,2}{89,8} \times 100 \% = 47,44 \%$
Dosis 4 mg/kg BB % hambatan nyeri = $\frac{89,8 - 38,8}{89,8} \times 100 \% = 56,79 \%$	Dosis 4 mg/kg BB % hambatan nyeri = $\frac{89,8 - 37}{89,8} \times 100 \% = 58,80 \%$
Dosis 5 mg/kg BB % hambatan nyeri = $\frac{89,8 - 28}{89,8} \times 100 \% = 68,37 \%$	Dosis 5 mg/kg BB % hambatan nyeri = $\frac{89,8 - 27,8}{89,8} \times 100 \% = 69,04 \%$

LAMPIRAN D.
**HASIL UJI HSD ANTARA KELOMPOK SENYAWA UJI O-(3-
 KLOBENZOIL)PIROKSIKAM, SENYAWA PEMBANDING
 PIROKSIKAM DAN KONTROL CMC-Na 0,5%**

Hasil Uji HSD

Multiple Comparisons

Dependent Variable: GELIAT

Tukey HSD

(I)Do sis	(J)Dosis	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
1	2	12.60000*	2.89890	.003	2.7640	22.4360
	3	22.20000*	2.89890	.000	12.3640	32.0360
	4	32.40000*	2.89890	.000	22.5640	42.2360
	5	42.80000*	2.89890	.000	32.9640	52.6360
	6	.80000	2.89890	1.000	-9.0360	10.6360
	7	15.00000*	2.89890	.000	5.1640	24.8360
	8	24.00000*	2.89890	.000	14.1640	33.8360
	9	34.20000*	2.89890	.000	24.3640	44.0360
	10	43.40000*	2.89890	.000	33.5640	53.2360
	11	-18.60000*	2.89890	.000	-28.4360	-8.7640
	2	1	-12.60000*	2.89890	.003	-22.4360
3		9.60000	2.89890	.061	-.2360	19.4360
4		19.80000*	2.89890	.000	9.9640	29.6360
5		30.20000*	2.89890	.000	20.3640	40.0360
6		-11.80000*	2.89890	.008	-21.6360	-1.9640
7		2.40000	2.89890	.999	-7.4360	12.2360
8		11.40000*	2.89890	.012	1.5640	21.2360
9		21.60000*	2.89890	.000	11.7640	31.4360
10		30.80000*	2.89890	.000	20.9640	40.6360
11		-31.20000*	2.89890	.000	-41.0360	-21.3640

3	1	-22.20000*	2.89890	.000	-32.0360	-12.3640
	2	-9.60000	2.89890	.061	-19.4360	.2360
	4	10.20000*	2.89890	.036	.3640	20.0360
	5	20.60000*	2.89890	.000	10.7640	30.4360
	6	-21.40000*	2.89890	.000	-31.2360	-11.5640
	7	-7.20000	2.89890	.341	-17.0360	2.6360
	8	1.80000	2.89890	1.000	-8.0360	11.6360
	9	12.00000*	2.89890	.006	2.1640	21.8360
	10	21.20000*	2.89890	.000	11.3640	31.0360
	11	-40.80000*	2.89890	.000	-50.6360	-30.9640
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4	1	-32.40000*	2.89890	.000	-42.2360	-22.5640
	2	-19.80000*	2.89890	.000	-29.6360	-9.9640
	3	-10.20000*	2.89890	.036	-20.0360	-.3640
	5	10.40000*	2.89890	.030	.5640	20.2360
	6	-31.60000*	2.89890	.000	-41.4360	-21.7640
	7	-17.40000*	2.89890	.000	-27.2360	-7.5640
	8	-8.40000	2.89890	.157	-18.2360	1.4360
	9	1.80000	2.89890	1.000	-8.0360	11.6360
	10	11.00000*	2.89890	.017	1.1640	20.8360
	11	-51.00000*	2.89890	.000	-60.8360	-41.1640
	<hr/>					
5	1	-42.80000*	2.89890	.000	-52.6360	-32.9640
	2	-30.20000*	2.89890	.000	-40.0360	-20.3640
	3	-20.60000*	2.89890	.000	-30.4360	-10.7640
	4	-10.40000*	2.89890	.030	-20.2360	-.5640
	6	-42.00000*	2.89890	.000	-51.8360	-32.1640
	7	-27.80000*	2.89890	.000	-37.6360	-17.9640
	8	-18.80000*	2.89890	.000	-28.6360	-8.9640
	9	-8.60000	2.89890	.136	-18.4360	1.2360
	10	.60000	2.89890	1.000	-9.2360	10.4360
	11	-61.40000*	2.89890	.000	-71.2360	-51.5640
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6	1	-.80000	2.89890	1.000	-10.6360	9.0360
	2	11.80000*	2.89890	.008	1.9640	21.6360

	3	21.40000*	2.89890	.000	11.5640	31.2360
	4	31.60000*	2.89890	.000	21.7640	41.4360
	5	42.00000*	2.89890	.000	32.1640	51.8360
	7	14.20000*	2.89890	.001	4.3640	24.0360
	8	23.20000*	2.89890	.000	13.3640	33.0360
	9	33.40000*	2.89890	.000	23.5640	43.2360
	10	42.60000*	2.89890	.000	32.7640	52.4360
	11	-19.40000*	2.89890	.000	-29.2360	-9.5640
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	1	-15.00000*	2.89890	.000	-24.8360	-5.1640
	2	-2.40000	2.89890	.999	-12.2360	7.4360
	3	7.20000	2.89890	.341	-2.6360	17.0360
	4	17.40000*	2.89890	.000	7.5640	27.2360
7	5	27.80000*	2.89890	.000	17.9640	37.6360
	6	-14.20000*	2.89890	.001	-24.0360	-4.3640
	8	9.00000	2.89890	.100	-.8360	18.8360
	9	19.20000*	2.89890	.000	9.3640	29.0360
	10	28.40000*	2.89890	.000	18.5640	38.2360
	11	-33.60000*	2.89890	.000	-43.4360	-23.7640
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	1	-24.00000*	2.89890	.000	-33.8360	-14.1640
	2	-11.40000*	2.89890	.012	-21.2360	-1.5640
	3	-1.80000	2.89890	1.000	-11.6360	8.0360
	4	8.40000	2.89890	.157	-1.4360	18.2360
8	5	18.80000*	2.89890	.000	8.9640	28.6360
	6	-23.20000*	2.89890	.000	-33.0360	-13.3640
	7	-9.00000	2.89890	.100	-18.8360	.8360
	9	10.20000*	2.89890	.036	.3640	20.0360
	10	19.40000*	2.89890	.000	9.5640	29.2360
	11	-42.60000*	2.89890	.000	-52.4360	-32.7640
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	1	-34.20000*	2.89890	.000	-44.0360	-24.3640
	2	-21.60000*	2.89890	.000	-31.4360	-11.7640
9	3	-12.00000*	2.89890	.006	-21.8360	-2.1640
	4	-1.80000	2.89890	1.000	-11.6360	8.0360

	5	8.60000	2.89890	.136	-1.2360	18.4360
	6	-33.40000*	2.89890	.000	-43.2360	-23.5640
	7	-19.20000*	2.89890	.000	-29.0360	-9.3640
	8	-10.20000*	2.89890	.036	-20.0360	-.3640
	10	9.20000	2.89890	.085	-.6360	19.0360
	11	-52.80000*	2.89890	.000	-62.6360	-42.9640
	1	-43.40000*	2.89890	.000	-53.2360	-33.5640
	2	-30.80000*	2.89890	.000	-40.6360	-20.9640
	3	-21.20000*	2.89890	.000	-31.0360	-11.3640
	4	-11.00000*	2.89890	.017	-20.8360	-1.1640
10	5	-.60000	2.89890	1.000	-10.4360	9.2360
	6	-42.60000*	2.89890	.000	-52.4360	-32.7640
	7	-28.40000*	2.89890	.000	-38.2360	-18.5640
	8	-19.40000*	2.89890	.000	-29.2360	-9.5640
	9	-9.20000	2.89890	.085	-19.0360	.6360
	11	-62.00000*	2.89890	.000	-71.8360	-52.1640
	1	18.60000*	2.89890	.000	8.7640	28.4360
	2	31.20000*	2.89890	.000	21.3640	41.0360
	3	40.80000*	2.89890	.000	30.9640	50.6360
	4	51.00000*	2.89890	.000	41.1640	60.8360
11	5	61.40000*	2.89890	.000	51.5640	71.2360
	6	19.40000*	2.89890	.000	9.5640	29.2360
	7	33.60000*	2.89890	.000	23.7640	43.4360
	8	42.60000*	2.89890	.000	32.7640	52.4360
	9	52.80000*	2.89890	.000	42.9640	62.6360
	10	62.00000*	2.89890	.000	52.1640	71.8360

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

LAMPIRAN E.

HASIL UJI ED₅₀ SENYAWA PIROKSIKAM

* * * * * P R O B I T A N A L Y S I S * * * * *

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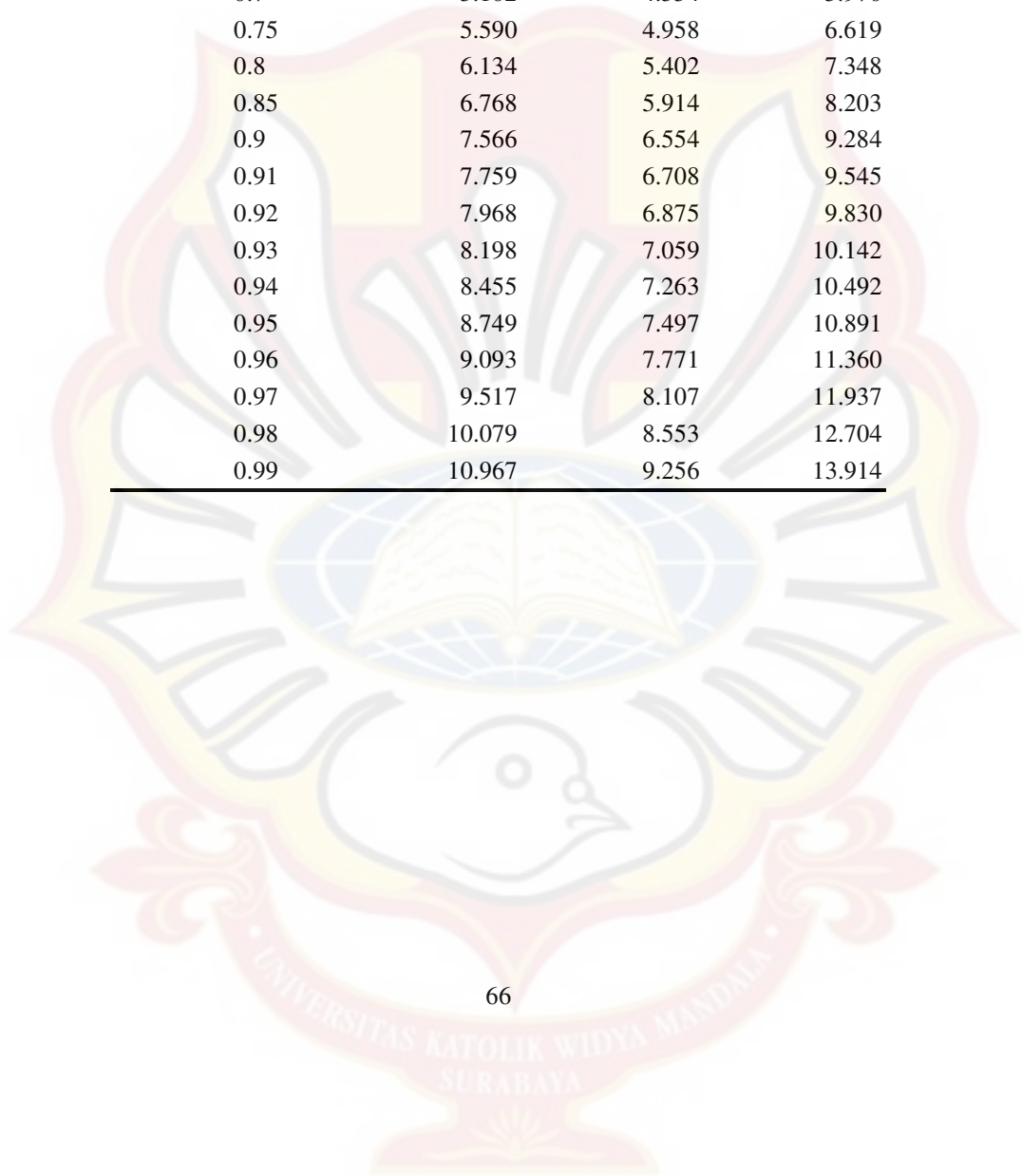
Cell Counts and Residuals

	Number	Dosis	Number of Subjects	Observed Responses	Expected Responses	Residual	Probability
PROBIT	1	1.000	100	21	23.089	-2.379	.231
	2	2.000	100	37	33.408	3.342	.334
	3	3.000	100	45	45.168	.262	.452
	4	4.000	100	57	57.371	-.581	.574
	5	5.000	100	68	68.902	-.532	.689

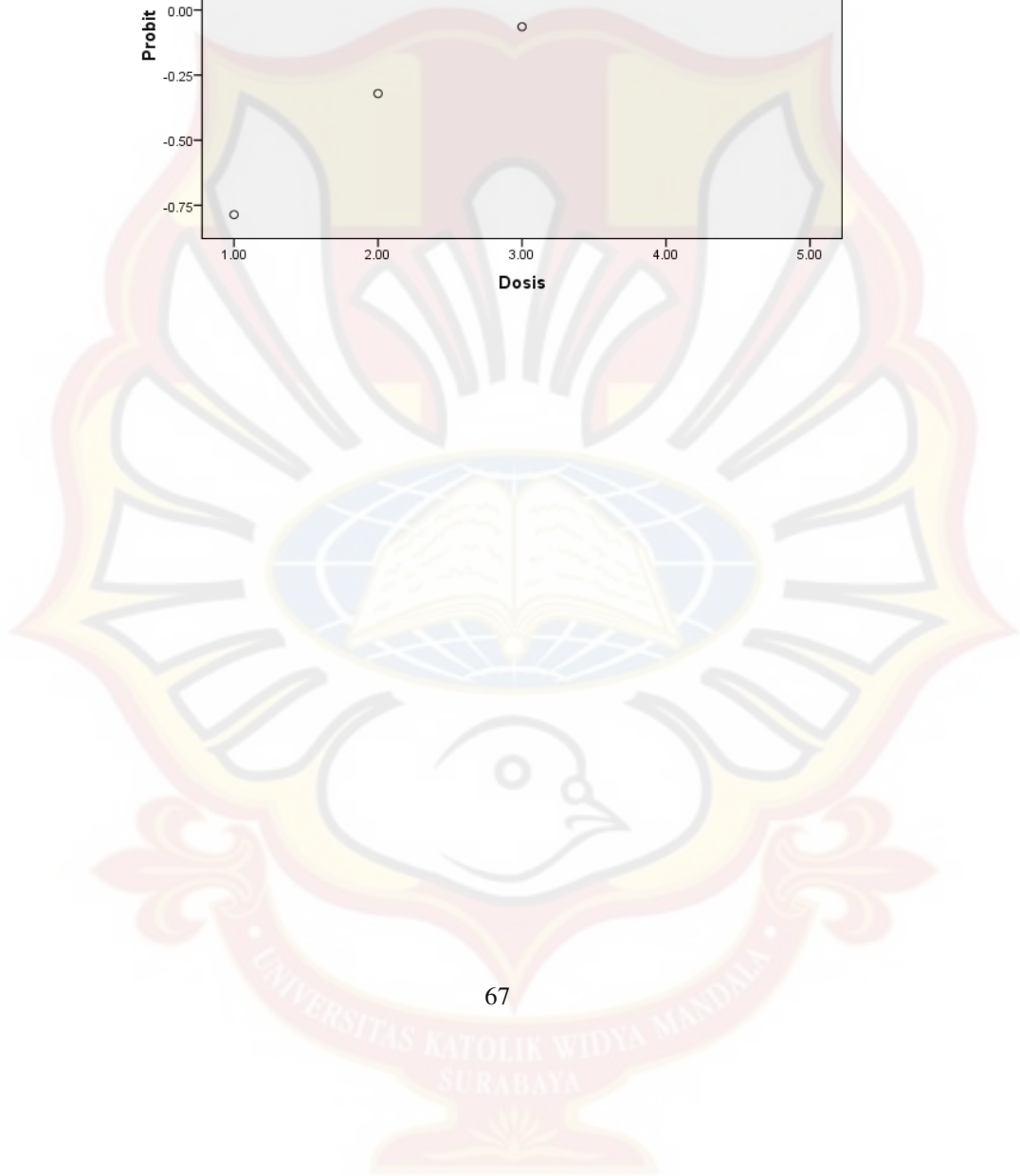
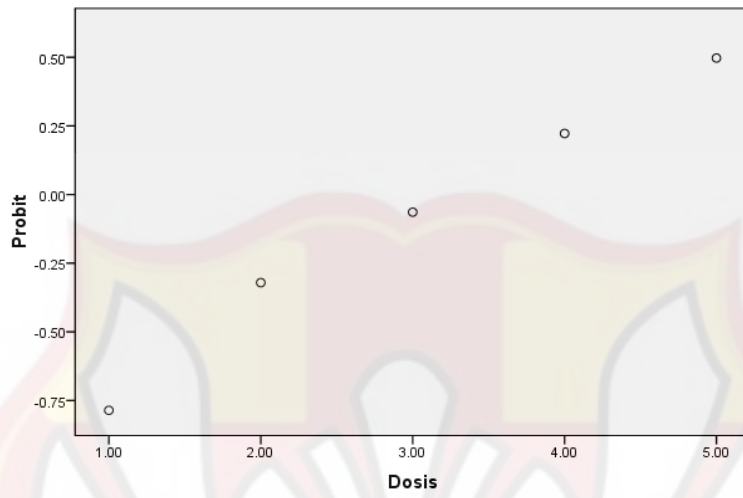
Confidence Limits

Probability	95% Confidence Limits for Dosis		
	Estimate	Lower Bound	Upper Bound
PROBIT 0.01	-4.176	-6.877	-2.607
0.02	-3.289	-5.668	-1.903
0.03	-2.726	-4.901	-1.456
0.04	-2.303	-4.325	-1.119
0.05	-1.958	-3.856	-.844
0.06	-1.665	-3.458	-.610
0.07	-1.408	-3.109	-.405
0.08	-1.178	-2.797	-.221
0.09	-.969	-2.514	-.053
0.1	-.776	-2.253	.102
0.15	.022	-1.177	.746
0.2	.656	-.328	1.264
0.25	1.200	.392	1.717
0.3	1.688	1.028	2.135

0.35	2.141	1.602	2.537
0.4	2.571	2.123	2.943
0.45	2.986	2.595	3.366
0.5	3.395	3.024	3.819
0.55	3.804	3.421	4.305
0.6	4.220	3.799	4.823
0.65	4.649	4.172	5.376
0.7	5.102	4.554	5.970
0.75	5.590	4.958	6.619
0.8	6.134	5.402	7.348
0.85	6.768	5.914	8.203
0.9	7.566	6.554	9.284
0.91	7.759	6.708	9.545
0.92	7.968	6.875	9.830
0.93	8.198	7.059	10.142
0.94	8.455	7.263	10.492
0.95	8.749	7.497	10.891
0.96	9.093	7.771	11.360
0.97	9.517	8.107	11.937
0.98	10.079	8.553	12.704
0.99	10.967	9.256	13.914



Probit Transformed Responses



LAMPIRAN F.
HASIL UJI ED₅₀ SENYAWA O-(3-KLOROBENZOIL)
PIROKSIKAM

* * * * * P R O B I T A N A L Y S I S * * * * *
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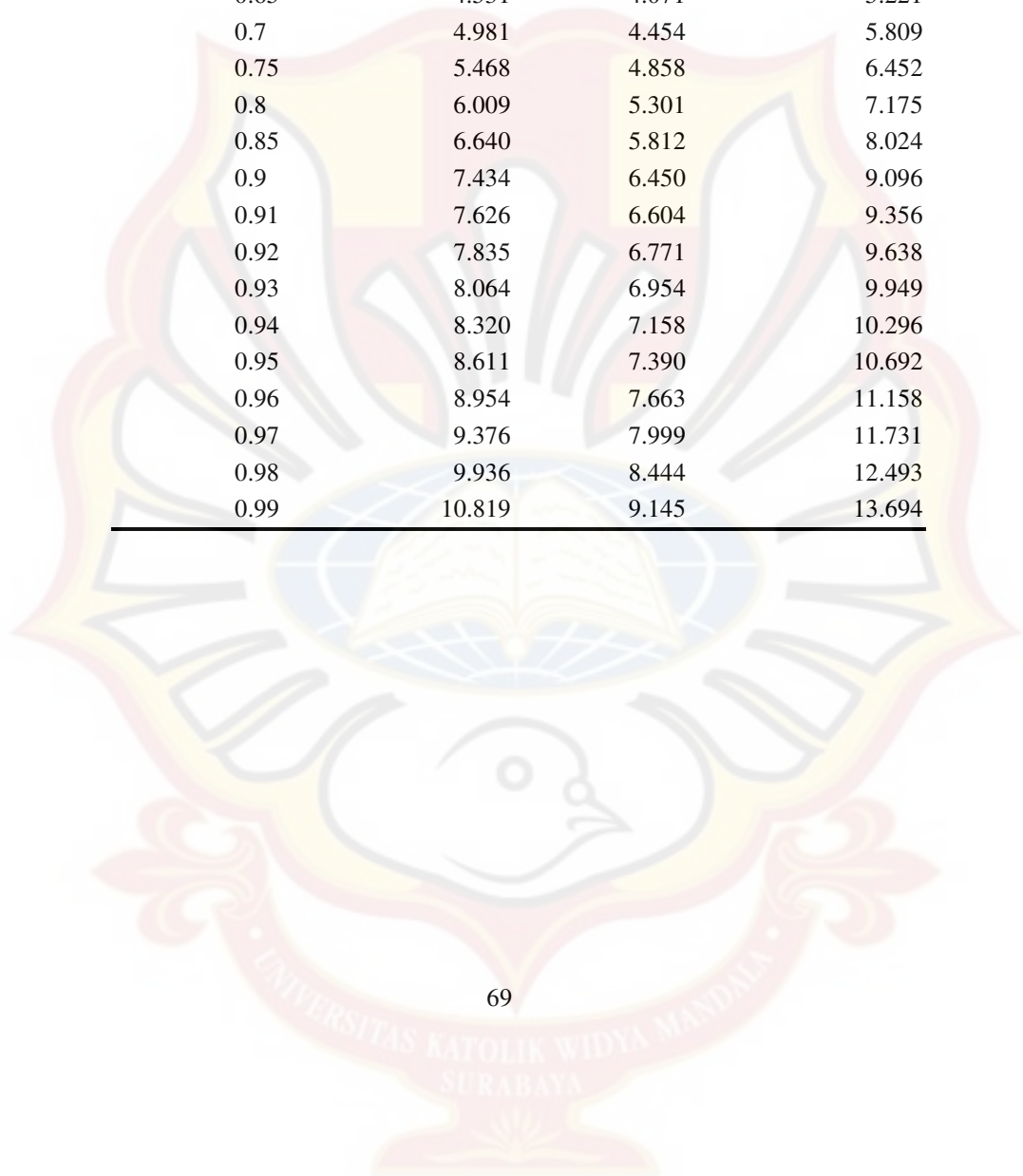
Cell Counts and Residuals

	Num ber	Dosis	Number of Subjects	Observed Responses	Expected Responses	Residua l	Probabili ty
PROB IT	1	1.000	100	22	24.054	-2.454	.241
	2	2.000	100	37	34.609	2.811	.346
	3	3.000	100	47	46.525	.915	.465
	4	4.000	100	59	58.763	.037	.588
	5	5.000	100	69	70.199	-1.159	.702

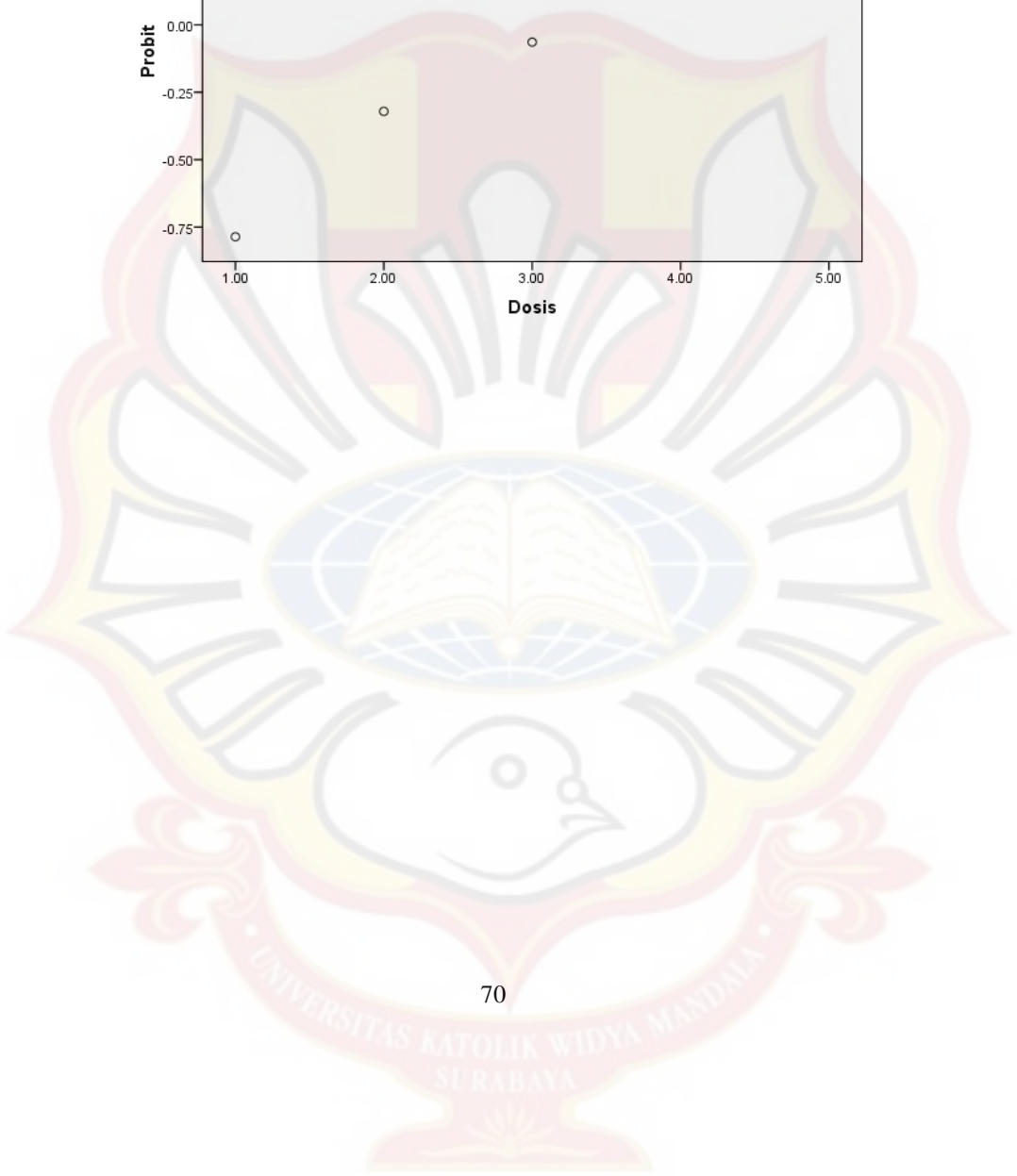
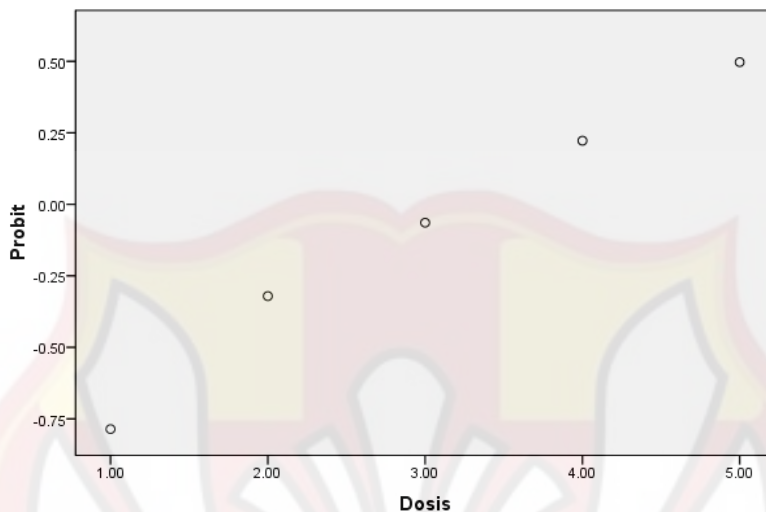
Confidence Limits

	Probability	95% Confidence Limits for Dosis		
		Estimate	Lower Bound	Upper Bound
PROBIT	0.01	-4.254	-6.956	-2.679
	0.02	-3.371	-5.755	-1.977
	0.03	-2.811	-4.994	-1.532
	0.04	-2.389	-4.421	-1.196
	0.05	-2.046	-3.956	-.922
	0.06	-1.754	-3.560	-.689
	0.07	-1.499	-3.214	-.485
	0.08	-1.269	-2.904	-.301
	0.09	-1.061	-2.622	-.134
	0.1	-.869	-2.363	.020
	0.15	-.075	-1.293	.661
	0.2	.556	-.449	1.177
	0.25	1.097	.268	1.626

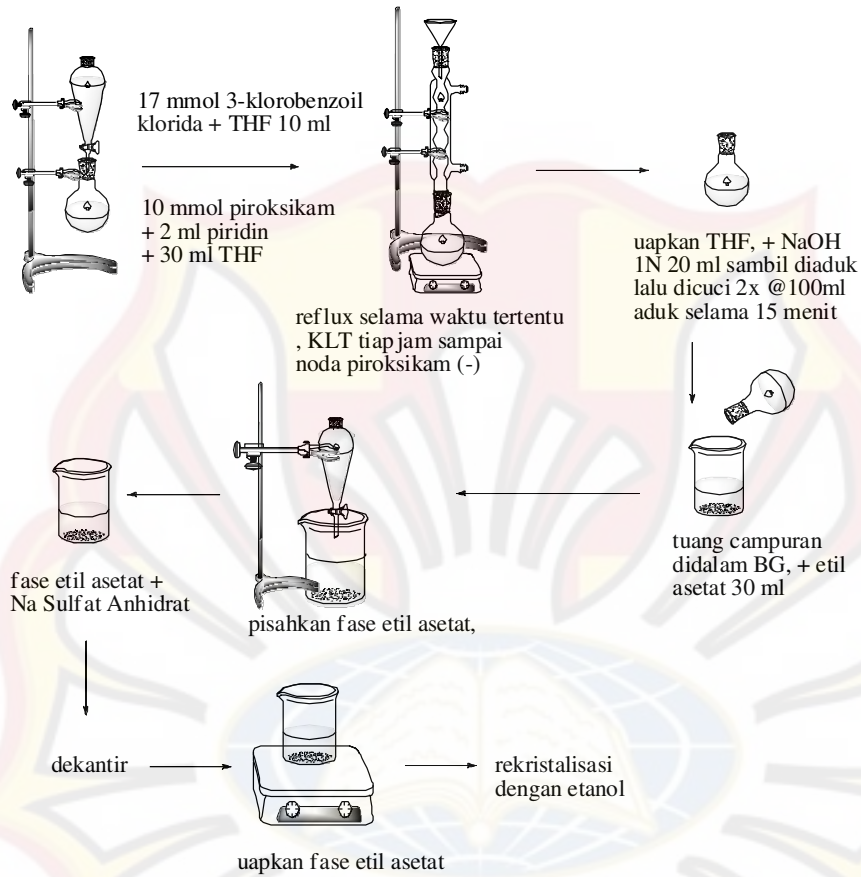
0.3	1.584	.902	2.040
0.35	2.034	1.476	2.437
0.4	2.462	1.999	2.835
0.45	2.875	2.477	3.248
0.5	3.283	2.912	3.690
0.55	3.690	3.314	4.165
0.6	4.103	3.695	4.675
0.65	4.531	4.071	5.221
0.7	4.981	4.454	5.809
0.75	5.468	4.858	6.452
0.8	6.009	5.301	7.175
0.85	6.640	5.812	8.024
0.9	7.434	6.450	9.096
0.91	7.626	6.604	9.356
0.92	7.835	6.771	9.638
0.93	8.064	6.954	9.949
0.94	8.320	7.158	10.296
0.95	8.611	7.390	10.692
0.96	8.954	7.663	11.158
0.97	9.376	7.999	11.731
0.98	9.936	8.444	12.493
0.99	10.819	9.145	13.694



Probit Transformed Responses



LAMPIRAN G.
SKEMA SINTESIS O-(3-KLOROBENZOIL)PIROKSIKAM



LAMPIRAN H.
SERTIFIKAT ANALISIS PIROKSIKAM

南通精华制药股份有限公司检验报告
NANTONG JINGHUA PHARMACEUTICAL CO. LTD.
CERTIFICATE OF ANALYSIS
APIs.ADD:43 Yaogang Road,Nantong Jiangsu China
Tel:86-313-85609405/85609406

吡罗昔康
PIROXICAM MICRONIZED

Batch No.	PRX2009005M	Manufacture Date	2009.3.4
Total Quantity	200.0KG	Report Date	2009.3.5
Commercial Quantity	200.0KG	Re-test Date	2012.3.3
Inspection No.	09030020		

TEST	SPECIFICATIONS (USP)	RESULTS
Characteristics	off-white to light tan or light yellow odorless powder	Complies
Identification	A. IR B. UV C. TLC	Complies
Water	≤0.5%	0.32%
Residue on ignition	≤0.3%	0.14%
Heavy metals	≤0.005%	<0.005%
Organic volatile impurities	complies	Complies
Residual solvents	Ethanol ≤0.5%	<0.5%
Particle size	100%≤1000mesh	Complies
Assay	97.0~103.0%	99.46%

Conclusion The product meets the requirements of USP 31 and the additional items defined by customer

Analyst *[Signature]* Supervisor *[Signature]* Chief of Laboratory *[Signature]*
2009.3.5 2009.3.5 2009.3.5

QA Release Date *[Signature]*
2009.3.5

TATA
[Signature]
PT. TATA FARMA KEMANTANA

LAMPIRAN I.
SERTIFIKAT HEWAN COBA MENCIT (*MUS MUSCULUS*)

CV. SURABAYA MOUSE SERVICE
WEDORO MASJID NO. 20-E RT. 01 RW.05 WEDORO
KECAMATAN WARU SIDOARJO
TELP. 081938310682 – 03170259110

Yang bertanda tangan di bawah ini:

Nama : M. Syamsul Bahri, S.Kom

Selaku penanggung jawab Pengembangan Hewan Percobaan

Menerangkan bahwa yang digunakan pada penelitian:

Judul : Sintesis O-(3-Chloro Benzoil) Piroksikam dan Uji Aktivitas Analgesik terhadap Mencit (*Mus Musculus*).

Peneliti : Roesma Aprilya

Institusi : Fakultas Farmasi Universitas Katolik Widya Mandala Surabaya

NRP : 2443006098

Merupakan hewan uji dengan spesifikasi:

Mencit galur : Swiss Webster

Umur : 2 – 3 bulan

Jenis kelamin : Jantan

Jumlah : 55 ekor

Demikian surat keterangan ini dibuat untuk dapat digunakan sebaik-baiknya.

Sidoarjo, 30 Maret 2010

Penanggung Jawab



(M. Syamsul Bahri, S.Kom)