

LAMPIRAN A
SERTIFIKAT SENYAWA ASAM
O(4-KLOROBENZOIL)SALISILAT

1. Nama senyawa : Asam O(4-klorobenzoil)salisilat
2. Dibuat oleh : Siswandono
3. Tanggal dibuat : 9 Juni 2009
4. Rendemen : 52,1%
5. Hasil Pemeriksaan :

No.	Jenis Pemeriksaan	Hasil Pemeriksaan
1.	Pemerian/Organoleptis	Bentuk amorf, warna putih, tidak berbau
2.	Jarak lebur	119-121°C
3.	Kelarutan	metanol, etanol, dan aseton
4.	Uji KLT(3 eluen)	1 noda.
5.	Identifikasi UV	λ maks = 232 dan 298 nm.
6.	Identifikasi IR ν (cm^{-1})	2926 (-O-H asam); 1739 (-C=O ester); 1691 (-C=O asam); 1593 & 1476 (-C-H aromatis)
7.	Identifikasi ^1H NMR δ (ppm)	7,18-8,16, m, (8H dari 2 gugus Ar-H); 8,91, s, COOH;
8.	Kesimpulan :	Senyawa adalah Asam O(4-klorobenzoil)salisilat

Surabaya, 17 Januari 2010

Mengetahui:
 Bagian Kimia Farmasi
 Fakultas Farmasi Unair



Dr. Djoko Agus Purwanto, Apt., M.S.
 NIP. 131-653-457

Ketua Peneliti,

Siswandono

Prof. Dr. Siswandono, Apt., MS.

LAMPIRAN B

SERTIFIKAT BESI(III)SALISILAT HEKSAHIDRAT PRO ANALISA



Certificate of Analysis

<http://certificates.merck.de>

Date of print: 12.04.2010

1.03943.0250 Iron(III) chloride hexahydrate GR for analysis
ACS, Reag. Ph Eur
Batch B0444943

	Spec. Values		Batch Values	
Assay (iodometric, FeCl₃·6H₂O)	99.0 – 102.0	%	99.6	%
Identity	passes test		passes test	%
Insoluble matter	≤ 0.01	%	≤ 0.01	%
Free chlorine	passes test		passes test	%
Acidic substances	passes test		passes test	%
Nitrate (NO₃⁻)	≤ 0.01	%	≤ 0.01	%
Sulfate (SO₄²⁻)	≤ 0.001	%	≤ 0.01	%
Total nitrogen (N)	≤ 0.01	%	≤ 0.01	%
Total phosphorus (as PO₄³⁻)	≤ 0.005	%	≤ 0.005	%
Heavy metals (as Pb)	≤ 0.01	%	≤ 0.01	%
Ca (Calcium)	≤ 0.003	%	≤ 0.003	%
Cu (Copper)	≤ 0.002	%	≤ 0.002	%
Fe II (Iron II)*	≤ 0.005	%	≤ 0.005	%
Zn (Zinc)	≤ 0.005	%	≤ 0.005	%
Mg (Magnesium)	≤ 0.05	%	≤ 0.05	%
Na (Sodium)	≤ 0.003	%	≤ 0.003	%

* The Fe(II)-content increases if the recommended storage conditions (+15 to +25 °C) are not observed.

Merck KGaA, Frankfurter Straße 250, 64283 Darmstadt (Germany); +49 6151 72-0

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Certificate of Analysis

1.03943.0250 Iron(III) chloride hexahydrate GR for analysis
ACS, Reag. Ph Eur
Batch B0444943

Test date (DD.MM.YYYY): 14.10.2009
 Minimum shelf life (DD.MM.YYYY): 31.10.2012

Dr. Andreas Lang

responsible laboratory manager quality control

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LAMPIRAN C
PERHITUNGAN KURVA BAKU

Perhitungan Konsentrasi Kurva Baku Replikasi III

Penimbangan = 0,1006 mg

Konsentrasi larutan baku induk = $100,6 \text{ mg} \times 1000 \text{ } \mu\text{g} : 100,0 \text{ ml} = 1006 \text{ ppm}$

Pengenceran I Kurva Baku :

Konsentrasi 1 = $0,3 \text{ ml} : 10,0 \text{ ml} \times 1006 \text{ } \mu\text{g/ml} = 30,18 \text{ ppm}$

Konsentrasi 2 = $1,0 \text{ ml} : 10,0 \text{ ml} \times 1006 \text{ } \mu\text{g/ml} = 100,6 \text{ ppm}$

Konsentrasi 3 = $2,0 \text{ ml} : 10,0 \text{ ml} \times 1006 \text{ } \mu\text{g/ml} = 201,2 \text{ ppm}$

Konsentrasi 4 = $2,5 \text{ ml} : 10,0 \text{ ml} \times 1006 \text{ } \mu\text{g/ml} = 251,5 \text{ ppm}$

Konsentrasi 5 = $3,0 \text{ ml} : 10,0 \text{ ml} \times 1006 \text{ } \mu\text{g/ml} = 301,8 \text{ ppm}$

Konsentrasi Kurva Baku :

Konsentrasi C1 = $1,0 \text{ ml} : 6,0 \text{ ml} \times 30,18 \text{ } \mu\text{g/ml} = 5,03 \text{ ppm}$

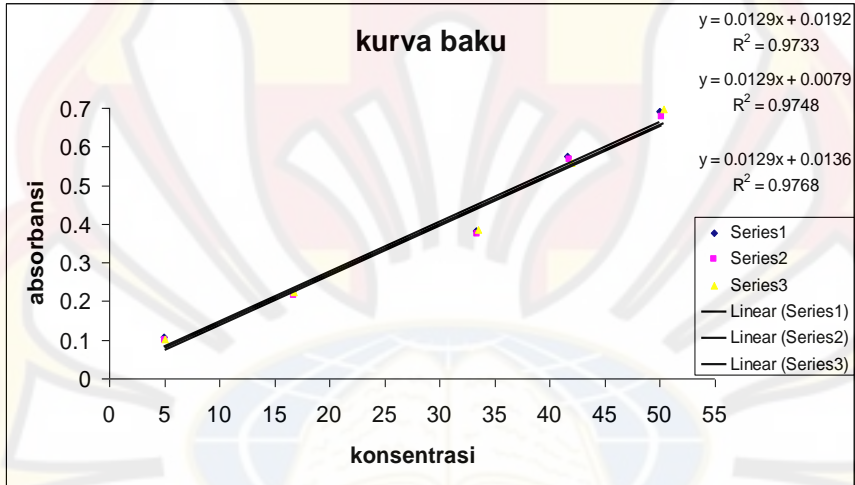
Konsentrasi C2 = $1,0 \text{ ml} : 6,0 \text{ ml} \times 100,6 \text{ } \mu\text{g/ml} = 16,77 \text{ ppm}$

Konsentrasi C3 = $1,0 \text{ ml} : 6,0 \text{ ml} \times 201,2 \text{ } \mu\text{g/ml} = 33,53 \text{ ppm}$

Konsentrasi C4 = $1,0 \text{ ml} : 6,0 \text{ ml} \times 251,5 \text{ } \mu\text{g/ml} = 41,92 \text{ ppm}$

Konsentrasi C5 = $1,0 \text{ ml} : 6,0 \text{ ml} \times 301,8 \text{ } \mu\text{g/ml} = 50,3 \text{ ppm}$

LAMPIRAN D
GRAFIK KURVA BAKU



	$S X^2$	SXY	$S Y^2$	N	SSi	RDF
Replikasi 1	5639.072	75.55503	1.018894	5	1.005496	4
Replikasi 2	5672.6226	74.28828	0.978762	5	0.965666	4
Replikasi 3	5718.1711	75.676	1.007127	5	0.993893	4
	17029.8657	225.5193	3.004783		2.965054	
SSc=	2.991540423					
		$< F_{\text{tabel}}(2,12) = 3,89$				
F=	0.05359661					

LAMPIRAN E

PERHITUNGAN HASIL PENETAPAN KADAR SENYAWA ASAM O-(4-KLOROBENZOIL)SALISILAT UNTUK REPLIKASI I

Penetapan Kadar Asam o(4-klorobenzoil)salisilat untuk Replikasi 1

Penimbangan = 50,4 mg

Konsentrasi teoritis = 50,4 mg x 1000 µg / 100,0 ml = 504 ppm

Pengenceran [larutan uji] : 1,0 ml : 6,0 ml x 504 µg/ml = 84 ppm

Konsentrasi dari perhitungan : $y = 0,0129x + 0,0136 \Rightarrow x = (y - 0,0136) : 0,0129$

Konsentrasi Asam salisilat Hasil Observasi

$$T = 0 \quad \Rightarrow \quad x = (0,000 - 0,0136) : 0,0129 \\ = 0,000$$

$$T = 15 \quad \Rightarrow \quad x = (0,096 - 0,0136) : 0,0129 \\ = 6,388$$

$$T = 30 \quad \Rightarrow \quad x = (0,142 - 0,0136) : 0,0129 \\ = 9,953$$

$$T = 45 \quad \Rightarrow \quad x = (0,173 - 0,0136) : 0,0129 \\ = 12,357$$

$$T = 60 \quad \Rightarrow \quad x = (0,240 - 0,0136) : 0,0129 \\ = 17,550$$

$$T = 75 \quad \Rightarrow \quad x = (0,251 - 0,0136) : 0,0129 \\ = 18,403$$

$$T = 90 \quad \Rightarrow \quad x = (0,277 - 0,0136) : 0,0129 \\ = 20,419$$

$$T = 105 \quad \Rightarrow \quad x = (0,299 - 0,0136) : 0,0129 \\ = 22,124$$

Kesetaraan :

* 1 mg asam salisilat setara dengan 1,304 mg aspirin

* 1 mg asam salisilat setara dengan 2,003 mg Asam o-(4klorobenzoil)salisilat

Konsentrasi Asam o(4klorobenzoil)salisilat yang terurai :

$$\begin{aligned} T = 0 & \Rightarrow x = 0.000 \times 2.003 \\ & = 0.000 \text{ ppm} \\ T = 15 & \Rightarrow x = 6.388 \times 2.003 \\ & = 12.794 \text{ ppm} \\ T = 30 & \Rightarrow x = 9.953 \times 2.003 \\ & = 19.937 \text{ ppm} \\ T = 45 & \Rightarrow x = 12.357 \times 2.003 \\ & = 24.750 \text{ ppm} \\ T = 60 & \Rightarrow x = 17.550 \times 2.003 \\ & = 35.153 \text{ ppm} \\ T = 75 & \Rightarrow x = 18.403 \times 2.003 \\ & = 36.861 \text{ ppm} \\ T = 90 & \Rightarrow x = 20.419 \times 2.003 \\ & = 40.898 \text{ ppm} \\ T = 105 & \Rightarrow x = 22.124 \times 2.003 \\ & = 44.314 \text{ ppm} \end{aligned}$$

Konsentrasi Asam o(4klorobenzoil)salisilat yang tersisa :

$$C \text{ sisa} = C \text{ mula-mula} - C \text{ terurai}$$

$$\begin{aligned} T = 0 & \Rightarrow x = 84 \text{ ppm} - 0.000 \text{ ppm} \\ & = 84 \text{ ppm} \\ T = 15 & \Rightarrow x = 84 \text{ ppm} - 12.794 \text{ ppm} \\ & = 71.206 \text{ ppm} \\ T = 30 & \Rightarrow x = 84 \text{ ppm} - 19.937 \text{ ppm} \\ & = 64.063 \text{ ppm} \\ T = 45 & \Rightarrow x = 84 \text{ ppm} - 24.750 \text{ ppm} \\ & = 59.250 \text{ ppm} \\ T = 60 & \Rightarrow x = 84 \text{ ppm} - 35.153 \text{ ppm} \\ & = 48.847 \text{ ppm} \\ T = 75 & \Rightarrow x = 84 \text{ ppm} - 36.861 \text{ ppm} \\ & = 47.139 \text{ ppm} \\ T = 90 & \Rightarrow x = 84 \text{ ppm} - 40.898 \text{ ppm} \\ & = 43.102 \text{ ppm} \\ T = 105 & \Rightarrow x = 84 \text{ ppm} - 44.314 \text{ ppm} \\ & = 39.686 \text{ ppm} \end{aligned}$$

LAMPIRAN F
UJI F HITUNG UNTUK REGRESI LINEAR SENYAWA ASAM
O-(4-KLOROBENZOIL)SALISILAT UNTUK REPLIKASI I

Correlations

		waktu	r1
Pearson Correlation	waktu	1,000	-,990
	r1	-,990	1,000
Sig. (1-tailed)	waktu	.	,000
	r1	,000	.
N	waktu	8	8
	r1	8	8

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	,990 ^a	,980	,977	5,595	,980	295,853	1	6	,000

a. Predictors: (Constant), r1

ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9262,160	1	9262,160	295,853	,000 ^a
	Residual	187,840	6	31,307		
	Total	9450,000	7			

a. Predictors: (Constant), r1

b. Dependent Variable: waktu

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	611,354	32,551		18,781	,000
	r1	-139,166	8,091	-,990	-17,200	,000

a. Dependent Variable: waktu

LAMPIRAN G

UJI T HITUNG PARAMETER KINETIKA REAKSI

Group Statistics

zat	N	Mean	Std. Deviation	Std. Error Mean
k Asam o-(asetil)salisilat	6	,007117	,0001602	,0000654
Asam O-asetilsalisilat	6	,012467	,0011894	,0004856

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
k	Equal variances assumed	12,754	,005	-10,919	10	,000	-.0053500	,0004900	-.0064417	-.0042583
	Equal variances not assumed			-10,919	5,181	,000	-.0053500	,0004900	-.0065963	-.0041037

Group Statistics

zat	N	Mean	Std. Deviation	Std. Error Mean
t50 Asam o-(asetil)salisilat	6	97,41833	2,149748	,877631
Asam O-asetilsalisilat	6	55,98167	4,963073	2,026166

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
t50	Equal variances assumed	5,130	,047	18,766	10	,000	41,436667	2,208073	36,516774	46,356559
	Equal variances not assumed			18,766	6,812	,000	41,436667	2,208073	36,186112	46,687222

Group Statistics

zat	N	Mean	Std. Deviation	Std. Error Mean
t90 Asam o-(asetil)salisilat	6	14,76000	,325883	,133041
Asam 0-asetilsalisilat	6	8,48000	,752117	,307050

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
t90	Equal variances assumed	5,172	,046	18,767	10	,000	6,280000	,334634	5,534389	7,025611
	Equal variances not assumed			18,767	6,813	,000	6,280000	,334634	5,484303	7,075697

LAMPIRAN H
TABEL NILAI R

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

Sumber: Soedigdo & Soedigdo (1977).

LAMPIRAN I TABEL NILAI F

Baris pertama pada setiap pasangan baris adalah titik pada distribusi F untuk aras 0.05; baris kedua untuk aras 0.01.

		Derajat kebebasan untuk rataan kuadrat yang lebih besar																								
		1	2	3	4	5	6	7	8	9	10	11	12	14	16	20	24	30	40	50	75	100	200	500	∞	
Derajat kebebasan untuk rataan kuadrat yang lebih kecil.	16	4.49 8.53	3.63 6.23	3.24 5.29	3.01 4.77	2.85 4.44	2.74 4.20	2.64 4.11	2.59 3.89	2.54 3.78	2.49 3.69	2.45 3.61	2.42 3.55	2.37 3.45	2.33 3.37	2.28 3.25	2.24 3.18	2.20 3.10	2.16 3.01	2.13 2.96	2.09 2.89	2.07 2.86	2.04 2.80	2.02 2.77	2.01 2.75	
	17	4.45 8.40	3.59 6.11	3.20 5.18	2.96 4.67	2.81 4.34	2.70 4.10	2.62 3.93	2.55 3.79	2.50 3.68	2.45 3.59	2.41 3.52	2.38 3.45	2.33 3.35	2.29 3.27	2.23 3.16	2.19 3.06	2.15 3.00	2.11 2.92	2.08 2.86	2.04 2.79	2.02 2.76	1.99 2.70	1.97 2.67	1.96 2.65	
	18	4.41 8.28	3.55 6.01	3.16 5.09	2.93 4.58	2.77 4.25	2.66 4.01	2.58 3.85	2.51 3.71	2.46 3.60	2.41 3.51	2.37 3.44	2.34 3.37	2.29 3.27	2.25 3.19	2.20 3.07	2.15 3.00	2.11 2.92	2.07 2.84	2.04 2.76	2.00 2.70	1.98 2.63	1.96 2.60	1.95 2.54	1.93 2.51	1.92 2.49
	19	4.38 8.18	3.52 5.93	3.13 5.01	2.90 4.50	2.74 4.17	2.63 3.94	2.55 3.77	2.48 3.63	2.43 3.52	2.38 3.43	2.34 3.36	2.31 3.30	2.26 3.23	2.21 3.13	2.15 3.05	2.11 2.94	2.07 2.86	2.02 2.77	2.00 2.69	1.96 2.63	1.94 2.56	1.91 2.53	1.90 2.47	1.88 2.44	1.88 2.42
	20	4.35 8.10	3.49 5.85	3.10 4.94	2.87 4.43	2.71 4.10	2.61 3.87	2.52 3.71	2.45 3.56	2.40 3.45	2.35 3.37	2.31 3.30	2.28 3.23	2.23 3.13	2.18 3.05	2.12 2.94	2.08 2.86	2.04 2.77	2.00 2.69	1.99 2.63	1.96 2.56	1.92 2.53	1.90 2.47	1.87 2.44	1.85 2.42	1.84 2.42
	21	4.32 8.02	3.47 5.78	3.07 4.87	2.84 4.37	2.68 4.04	2.57 3.81	2.49 3.65	2.42 3.51	2.37 3.40	2.32 3.31	2.28 3.24	2.25 3.17	2.20 3.07	2.15 2.99	2.09 2.88	2.05 2.80	2.00 2.72	1.96 2.63	1.93 2.58	1.90 2.51	1.87 2.47	1.84 2.42	1.81 2.38	1.81 2.36	1.81 2.36
	22	4.30 7.94	3.44 5.72	3.05 4.82	2.82 4.31	2.66 3.99	2.55 3.76	2.47 3.59	2.40 3.45	2.35 3.35	2.30 3.26	2.26 3.18	2.23 3.12	2.18 3.02	2.13 2.94	2.07 2.83	2.03 2.75	1.98 2.67	1.93 2.58	1.91 2.53	1.87 2.46	1.84 2.42	1.81 2.37	1.80 2.33	1.78 2.33	1.78 2.31
	23	4.28 7.88	3.42 5.66	3.03 4.76	2.80 4.26	2.64 3.94	2.53 3.71	2.45 3.54	2.38 3.41	2.32 3.30	2.28 3.21	2.24 3.14	2.20 3.07	2.14 2.97	2.10 2.89	2.04 2.78	2.00 2.70	1.96 2.62	1.91 2.53	1.88 2.46	1.84 2.41	1.82 2.37	1.79 2.32	1.77 2.28	1.76 2.26	1.76 2.26
	24	4.26 7.82	3.40 5.61	3.01 4.72	2.78 4.22	2.62 3.90	2.51 3.67	2.43 3.50	2.36 3.36	2.30 3.25	2.26 3.17	2.22 3.09	2.18 3.03	2.13 2.93	2.09 2.85	2.02 2.74	1.98 2.66	1.94 2.58	1.89 2.49	1.86 2.44	1.82 2.36	1.80 2.33	1.77 2.27	1.74 2.23	1.74 2.23	1.73 2.21
	25	4.24 7.77	3.38 5.57	2.99 4.68	2.76 4.18	2.60 3.86	2.49 3.63	2.41 3.46	2.34 3.32	2.28 3.21	2.24 3.13	2.20 3.05	2.16 2.99	2.11 2.89	2.06 2.81	2.00 2.70	1.96 2.62	1.92 2.54	1.87 2.45	1.84 2.40	1.80 2.32	1.77 2.29	1.74 2.23	1.72 2.19	1.71 2.17	1.71 2.17
	26	4.22 7.72	3.37 5.53	2.89 4.64	2.74 4.14	2.59 3.82	2.47 3.59	2.39 3.42	2.32 3.29	2.27 3.17	2.22 3.09	2.18 3.02	2.15 2.96	2.10 2.86	2.05 2.77	1.99 2.66	1.95 2.58	1.90 2.50	1.85 2.41	1.82 2.36	1.78 2.28	1.76 2.25	1.72 2.19	1.70 2.15	1.69 2.13	1.69 2.13
	27	4.21 7.68	3.35 5.49	2.96 4.60	2.73 4.11	2.57 3.79	2.46 3.56	2.37 3.39	2.30 3.26	2.25 3.14	2.20 3.06	2.16 2.98	2.13 2.93	2.08 2.83	2.03 2.74	1.97 2.63	1.93 2.55	1.88 2.47	1.84 2.38	1.80 2.33	1.76 2.25	1.74 2.21	1.71 2.18	1.68 2.13	1.67 2.10	1.67 2.10
	28	4.20 7.64	3.34 5.45	2.95 4.57	2.71 4.07	2.56 3.76	2.44 3.53	2.36 3.36	2.29 3.23	2.24 3.11	2.19 3.03	2.15 2.95	2.12 2.90	2.06 2.80	2.02 2.71	1.96 2.60	1.91 2.52	1.87 2.44	1.81 2.35	1.78 2.30	1.75 2.22	1.72 2.18	1.69 2.13	1.67 2.09	1.65 2.06	1.65 2.06
	29	4.18 7.60	3.33 5.52	2.93 4.54	2.70 4.04	2.54 3.73	2.43 3.50	2.35 3.32	2.28 3.17	2.22 3.08	2.18 3.00	2.14 2.92	2.10 2.87	2.05 2.77	2.00 2.68	1.94 2.57	1.90 2.49	1.85 2.41	1.80 2.32	1.77 2.27	1.73 2.19	1.71 2.15	1.68 2.10	1.65 2.06	1.64 2.03	1.64 2.03
	30	4.17 7.56	3.32 5.39	2.92 4.51	2.69 4.02	2.53 3.70	2.42 3.47	2.34 3.30	2.27 3.17	2.21 3.06	2.16 2.98	2.12 2.90	2.09 2.84	2.04 2.74	1.99 2.64	1.93 2.55	1.89 2.47	1.84 2.38	1.79 2.29	1.76 2.24	1.72 2.16	1.69 2.13	1.66 2.07	1.64 2.03	1.64 2.03	1.64 2.03

(bersambung)

Baris pertama pada setiap pasangan baris adalah titik pada distribusi F untuk aras 0.05; baris kedua untuk aras 0.01.

		Derajat kebebasan untuk rataan kuadrat yang lebih besar.																											
		1	2	3	4	5	6	7	8	9	10	11	12	14	16	20	24	30	40	50	75	100	200	500	∞				
Derajat kebebasan untuk rataan kuadrat yang lebih kecil.	32	4.15 7.50	3.30 5.34	2.90 4.46	2.67 3.97	2.51 3.66	2.40 3.42	2.32 3.25	2.25 3.12	2.19 3.01	2.14 2.94	2.10 2.86	2.07 2.80	2.02 2.70	1.97 2.62	1.91 2.51	1.86 2.42	1.82 2.34	1.76 2.25	1.74 2.20	1.69 2.12	1.67 2.08	1.64 2.02	1.61 1.98	1.59 1.96				
	34	4.13 7.44	3.28 5.29	2.88 4.42	2.65 3.93	2.49 3.61	2.38 3.38	2.30 3.21	2.23 3.08	2.17 2.97	2.12 2.89	2.08 2.82	2.05 2.76	2.00 2.66	1.95 2.58	1.89 2.47	1.84 2.38	1.80 2.30	1.74 2.21	1.71 2.15	1.67 2.08	1.64 2.04	1.61 1.98	1.59 1.94	1.57 1.91				
	36	4.11 7.39	3.26 5.25	2.86 4.38	2.63 3.89	2.48 3.58	2.36 3.35	2.28 3.18	2.21 3.04	2.15 2.94	2.10 2.86	2.06 2.78	2.03 2.72	1.89 2.62	1.93 2.54	1.87 2.43	1.82 2.35	1.78 2.26	1.72 2.17	1.69 2.12	1.65 2.04	1.62 2.00	1.59 1.94	1.56 1.90	1.55 1.87				
	38	4.10 7.35	3.25 5.21	2.85 4.34	2.62 3.86	2.46 3.54	2.35 3.32	2.26 3.15	2.19 3.02	2.14 2.91	2.09 2.82	2.05 2.75	2.02 2.69	1.96 2.59	1.92 2.51	1.85 2.40	1.80 2.32	1.76 2.22	1.71 2.14	1.67 2.08	1.63 2.00	1.60 1.97	1.57 1.90	1.54 1.86	1.53 1.84				
	40	4.08 7.31	3.23 5.18	2.84 4.31	2.61 3.83	2.45 3.51	2.34 3.29	2.25 3.12	2.18 2.99	2.12 2.88	2.07 2.80	2.04 2.73	2.00 2.66	1.95 2.56	1.90 2.49	1.84 2.37	1.79 2.29	1.74 2.20	1.69 2.11	1.66 2.05	1.61 1.97	1.59 1.94	1.55 1.88	1.53 1.84	1.51 1.81				
	42	4.07 7.27	3.22 5.15	2.83 4.29	2.59 3.80	2.44 3.49	2.32 3.26	2.24 3.10	2.17 2.96	2.11 2.86	2.06 2.77	2.02 2.70	1.90 2.64	1.94 2.54	1.89 2.46	1.82 2.35	1.78 2.26	1.73 2.17	1.68 2.08	1.64 2.02	1.60 1.94	1.57 1.91	1.54 1.85	1.51 1.80	1.49 1.78				
	44	4.06 7.24	3.21 5.12	2.82 4.26	2.58 3.78	2.43 3.46	2.31 3.24	2.23 3.07	2.16 2.94	2.10 2.84	2.05 2.75	2.01 2.68	1.98 2.62	1.92 2.52	1.88 2.44	1.81 2.32	1.76 2.24	1.72 2.15	1.66 2.06	1.63 2.09	1.58 1.92	1.56 1.88	1.52 1.82	1.50 1.78	1.48 1.75				
	46	4.05 7.21	3.20 5.10	2.81 4.24	2.57 3.76	2.42 3.44	2.30 3.22	2.22 3.05	2.14 2.92	2.09 2.82	2.04 2.73	2.00 2.66	1.97 2.60	1.91 2.50	1.87 2.42	1.80 2.30	1.75 2.22	1.71 2.13	1.65 2.04	1.62 1.98	1.57 1.90	1.54 1.86	1.51 1.80	1.48 1.76	1.46 1.72				
	48	4.04 7.19	3.19 5.08	2.80 4.22	2.56 3.74	2.41 3.42	2.30 3.20	2.21 3.04	2.14 2.90	2.08 2.80	2.03 2.71	1.99 2.64	1.96 2.58	1.90 2.48	1.86 2.40	1.79 2.28	1.74 2.20	1.70 2.11	1.64 2.02	1.61 1.96	1.56 1.88	1.53 1.84	1.50 1.78	1.47 1.73	1.45 1.70				
	50	4.03 7.17	3.18 5.06	2.79 4.20	2.56 3.72	2.40 3.41	2.29 3.18	2.20 3.02	2.13 2.88	2.07 2.78	2.02 2.70	1.98 2.62	1.95 2.56	1.90 2.46	1.85 2.39	1.78 2.26	1.74 2.18	1.69 2.10	1.63 2.00	1.60 1.94	1.55 1.86	1.52 1.82	1.48 1.76	1.46 1.71	1.44 1.68				
	55	4.02 7.12	3.17 5.01	2.78 4.16	2.54 3.66	2.38 3.37	2.27 3.15	2.18 2.98	2.11 2.85	2.05 2.75	2.00 2.66	1.97 2.59	1.93 2.53	1.88 2.43	1.83 2.35	1.76 2.23	1.72 2.15	1.67 2.06	1.61 1.96	1.58 1.90	1.52 1.82	1.50 1.78	1.46 1.71	1.43 1.66	1.41 1.64				
	60	4.00 7.08	3.15 4.98	2.76 4.13	2.52 3.65	2.37 3.34	2.25 3.12	2.17 2.95	2.10 2.82	2.04 2.72	1.99 2.63	1.95 2.56	1.92 2.50	1.86 2.40	1.81 2.32	1.75 2.20	1.70 2.12	1.65 2.03	1.59 1.93	1.56 1.87	1.50 1.79	1.48 1.74	1.44 1.68	1.41 1.63	1.39 1.60				
	65	3.99 7.04	3.14 4.95	2.75 4.10	2.51 3.62	2.36 3.31	2.24 3.09	2.15 2.93	2.08 2.79	2.02 2.70	1.98 2.61	1.94 2.54	1.90 2.47	1.85 2.37	1.80 2.30	1.73 2.18	1.68 2.09	1.63 2.00	1.57 1.90	1.54 1.84	1.49 1.76	1.46 1.71	1.42 1.64	1.39 1.60	1.37 1.56				
	70	3.98 7.01	3.13 4.92	2.74 4.08	2.50 3.60	2.35 3.29	2.22 3.07	2.14 2.91	2.07 2.77	2.01 2.67	1.97 2.59	1.93 2.51	1.89 2.45	1.84 2.35	1.79 2.28	1.72 2.15	1.67 2.07	1.62 1.98	1.56 1.88	1.53 1.82	1.47 1.74	1.45 1.69	1.40 1.62	1.37 1.56	1.35 1.53				
	∞	3.96 6.96	3.11 4.88	2.72 4.04	2.48 3.56	2.33 3.25	2.21 3.04	2.12 2.87	2.05 2.74	1.99 2.64	1.95 2.55	1.91 2.48	1.88 2.41	1.82 2.32	1.77 2.24	1.70 2.11	1.66 2.03	1.60 1.94	1.54 1.84	1.51 1.78	1.48 1.70	1.43 1.65	1.38 1.57	1.36 1.52	1.32 1.49				

Sumber: Scheffler (1987).