



# LAMPIRAN

**LAMPIRAN 01.** Rendemen Minyak Atsiri Kulit Jeruk Keprok (*Citrus reticulata*)  
Metode Maserasi.

- 1) Berat sampel kulit jeruk yang digunakan sebanyak 250g.
- 2) Berat botol sampel 7.908gr.

**Tabel 1.** Berat Minyak Atsiri Kulit Jeruk Keprok

Pengulangan	Berat Minyak Atsiri + Botol (gr)	Berat Minyak Atsiri (gr)
1	11.593	3.685
2	12.448	4.540
3	11.955	4.047

Perhitungan Rendemen Minyak Atsiri Kulit Jeruk Keprok :

- 1) Pengulangan 1

$$\begin{aligned}\% \text{ Rendemen} &= \frac{\text{Berat Minyak Atsiri}}{\text{Berat Sampel}} \times 100\% \\ &= \frac{3.685}{250} \times 100\% \\ &= 1.474\%\end{aligned}$$

- 2) Pengulangan 2

$$\begin{aligned}\% \text{ Rendemen} &= \frac{\text{Berat Minyak Atsiri}}{\text{Berat Sampel}} \times 100\% \\ &= \frac{4.540}{250} \times 100\% \\ &= 1.816\%\end{aligned}$$

- 3) Pengulangan 3

$$\begin{aligned}\% \text{ Rendeman} &= \frac{\text{Berat Minyak Atsiri}}{\text{Berat Sampel}} \times 100\% \\ &= \frac{4.047}{250} \times 100\% \\ &= 1.619\%\end{aligned}$$

**LAMPIRAN 02.** Rendemen Minyak Atsiri Kulit Jeruk Keprok (*Citrus reticulata*)  
Metode Distilasi Uap Air.

- 1) Berat sampel kulit jeruk yang digunakan sebanyak 250g.
- 2) Berat botol sampel 7.908gr.

**Tabel 2.** Berat Minyak Atsiri Kulit Jeruk Keprok

Pengulangan	Berat Minyak Atsiri + Botol (gr)	Berat Minyak Atsiri (gr)
1	10.723	2.815
2	10.793	2.885
3	10.838	2.930

Perhitungan Nilai Rendemen Minyak Atsiri Kulit Jeruk Keprok :

- 1) Pengulangan 1

$$\begin{aligned}\% \text{ Rendemen} &= \frac{\text{Berat Minyak Atsiri}}{\text{Berat Sampel}} \times 100\% \\ &= \frac{2.815}{250} \times 100\% \\ &= 1.126\%\end{aligned}$$

- 2) Pengulangan 2

$$\begin{aligned}\% \text{ Rendemen} &= \frac{\text{Berat Minyak Atsiri}}{\text{Berat Sampel}} \times 100\% \\ &= \frac{2.885}{250} \times 100\% \\ &= 1.154\%\end{aligned}$$

- 3) Pengulangan 3

$$\begin{aligned}\% \text{ Rendemen} &= \frac{\text{Berat Minyak Atsiri}}{\text{Berat Sampel}} \times 100\% \\ &= \frac{2.930}{250} \times 100\% \\ &= 1.172\%\end{aligned}$$

**LAMPIRAN 03.** Analisis t-Test Rendemen Minyak Atsiri Kulit Jeruk Keprok (*Citrus reticulata*) menggunakan Metode Distilasi Uap Air dan Maserasi.

Uji Normalitas Minyak Atsiri

Tests of Normality						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Maserasi	0.207	3	.	0.992	3	0.833
Distilasi	0.224	3	.	0.984	3	0.762

Normalitas dari rendemen minyak atsiri kulit jeruk keprok (*Citrus reticulata*) yaitu untuk maserasi  $0.833 > 0.05$  dan distilasi uap air  $0.762 > 0.05$ .

Uji Homogenitas Minyak Atsiri

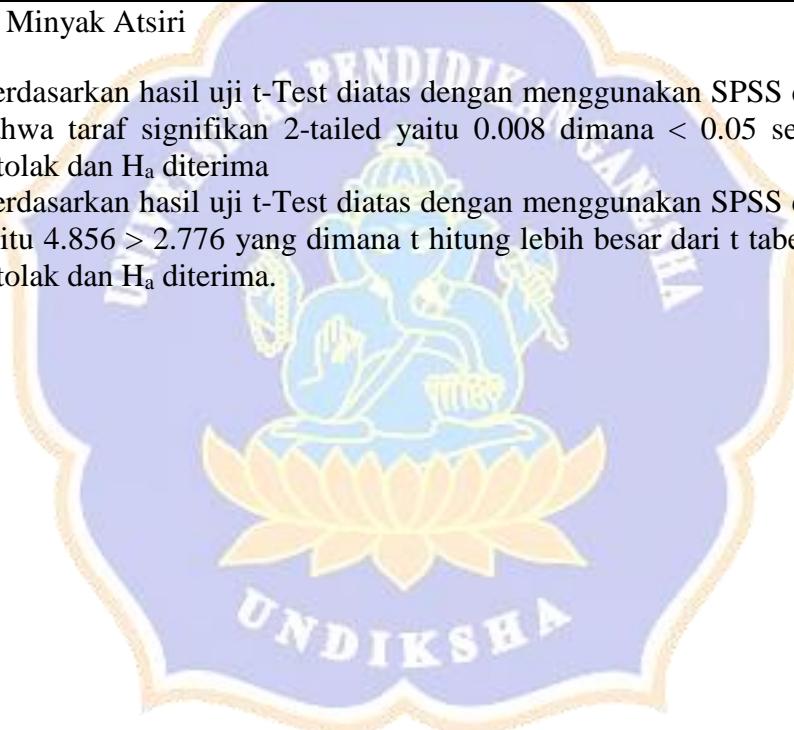
Test of Homogeneity of Variances				
Reticulata EO				
Levene Statistic	df1	df2	Sig.	
3.966	1	4	0.117	

Homogenitas dari rendemen minyak atsiri kulit jeruk keprok (*Citrus reticulata*) yaitu  $0.117 > 0.05$ .

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	
Reticula EO	Equal variances assumed	3.966	0.117	4.856	4	0.008	0.485667	0.10000	0.208005	0.763328
	Equal variances not assumed			4.856	2.073	0.037	0.485667	0.10000	0.069559	0.901774

#### Uji t-Test Minyak Atsiri

1. Berdasarkan hasil uji t-Test diatas dengan menggunakan SPSS di hasilkan bahwa taraf signifikan 2-tailed yaitu 0.008 dimana  $< 0.05$  sehingga  $H_0$  ditolak dan  $H_a$  diterima
2. Berdasarkan hasil uji t-Test diatas dengan menggunakan SPSS di hasilkan yaitu  $4.856 > 2.776$  yang dimana t hitung lebih besar dari t tabel maka  $H_0$  ditolak dan  $H_a$  diterima.



**LAMPIRAN 04.** Perhitungan Pembuatan Larutan Uji Antioksidan.

1. Larutan DPPH 40 ppm (0.1 mM)

DPPH ditimbang sebanyak :

$$0.1 \text{ mM} = \frac{mg}{Mr} \times \frac{1000}{v}$$

$$0.1 \text{ mM} = \frac{x}{394,32} \times \frac{1000}{25}$$

$$x = 1 \text{ mg}$$

Jadi, 1 mg DPPH ditimbang dan dilarutkan dengan pelarut metanol pro analisa 95% sebanyak 25 mL.

2. Larutan Induk Asam Askorbat

$$\frac{1 \text{ mg}}{0,01 \text{ L}} = \frac{1000 \mu\text{g}}{10 \text{ mL}} = 100 \frac{\mu\text{g}}{\text{mL}} = 100 \text{ ppm}$$

3. Larutan Pembanding Asam Askorbat (1, 2, 4, 8 dan 10 ppm)

- Konsentrasi 1 ppm

$$M_1 \times V_1 = M_2 \times V_2$$

$$100 \text{ ppm} \times V_1 = 1 \text{ ppm} \times 5 \text{ mL}$$

$V_1 = 0,05 \text{ mL}$  atau  $50 \mu\text{L}$  (jumlah yang dipipet dari larutan induk 1000 ppm)

- Konsentrasi 2 ppm

$$M_1 \times V_1 = M_2 \times V_2$$

$$100 \text{ ppm} \times V_1 = 2 \text{ ppm} \times 5 \text{ mL}$$

$V_1 = 0,1 \text{ mL}$  atau  $100 \mu\text{L}$  (jumlah yang dipipet dari larutan induk 1000 ppm)

- Konsentrasi 4 ppm

$$M_1 \times V_1 = M_2 \times V_2$$

$$100 \text{ ppm} \times V_1 = 4 \text{ ppm} \times 5 \text{ mL}$$

$V_1 = 0,2 \text{ mL}$  atau  $200 \mu\text{L}$  (jumlah yang dipipet dari larutan induk 1000 ppm)

- Konsentrasi 8 ppm

$$M_1 \times V_1 = M_2 \times V_2$$

$$100 \text{ ppm} \times V_1 = 8 \text{ ppm} \times 5 \text{ mL}$$

$V_1 = 0,40 \text{ mL}$  atau  $400 \mu\text{L}$  (jumlah yang dipipet dari larutan induk 1000 ppm)

- Konsentrasi 10 ppm

$$M_1 \times V_1 = M_2 \times V_2$$

$$100 \text{ ppm} \times V_1 = 10 \text{ ppm} \times 5 \text{ mL}$$

$V_1 = 0,5 \text{ mL}$  atau  $500 \mu\text{L}$  (jumlah yang dipipet dari larutan induk 1000 ppm)

4. Larutan Induk Minyak Atsiri Kulit Jeruk Keprok Masing – Masing Metode

$$\frac{10 \text{ mg}}{0,01 \text{ L}} = \frac{10.000 \mu\text{g}}{10 \text{ mL}} = 1000 \frac{\mu\text{g}}{\text{mL}} = 1000 \text{ ppm}$$

5. Larutan Uji Minyak Atsiri Kulit Jeruk Keprok Masing – Masing Metode (5, 25, 50, 80 Dan 125 Ppm)

- 1) Konsentrasi 5 ppm

$$M_1 \times V_1 = M_2 \times V_2$$

$$1000 \text{ ppm} \times V_1 = 5 \text{ ppm} \times 5 \text{ mL}$$

$V_1 = 0,025 \text{ mL}$  atau  $25 \mu\text{L}$  (jumlah yang dipipet dari larutan induk 1000 ppm)

- 2) Konsentrasi 25 ppm

$$M_1 \times V_1 = M_2 \times V_2$$

$$1000 \text{ ppm} \times V_1 = 25 \text{ ppm} \times 5 \text{ mL}$$

$V_1 = 0,125 \text{ mL}$  atau  $125 \mu\text{L}$  (jumlah yang dipipet dari larutan induk 1000 ppm)

- 3) Konsentrasi 50 ppm

$$M_1 \times V_1 = M_2 \times V_2$$

$$1000 \text{ ppm} \times V_1 = 50 \text{ ppm} \times 5 \text{ mL}$$

$V_1 = 0,25 \text{ mL}$  atau  $250 \mu\text{L}$  (jumlah yang dipipet dari larutan induk 1000 ppm)

- 4) Konsentrasi 80 ppm

$$M_1 \times V_1 = M_2 \times V_2$$

$$1000 \text{ ppm} \times V_1 = 80 \text{ ppm} \times 5 \text{ mL}$$

$V_1 = 0,40 \text{ mL}$  atau  $400 \mu\text{L}$  (jumlah yang dipipet dari larutan induk 1000 ppm)

5) Konsentrasi 125 ppm

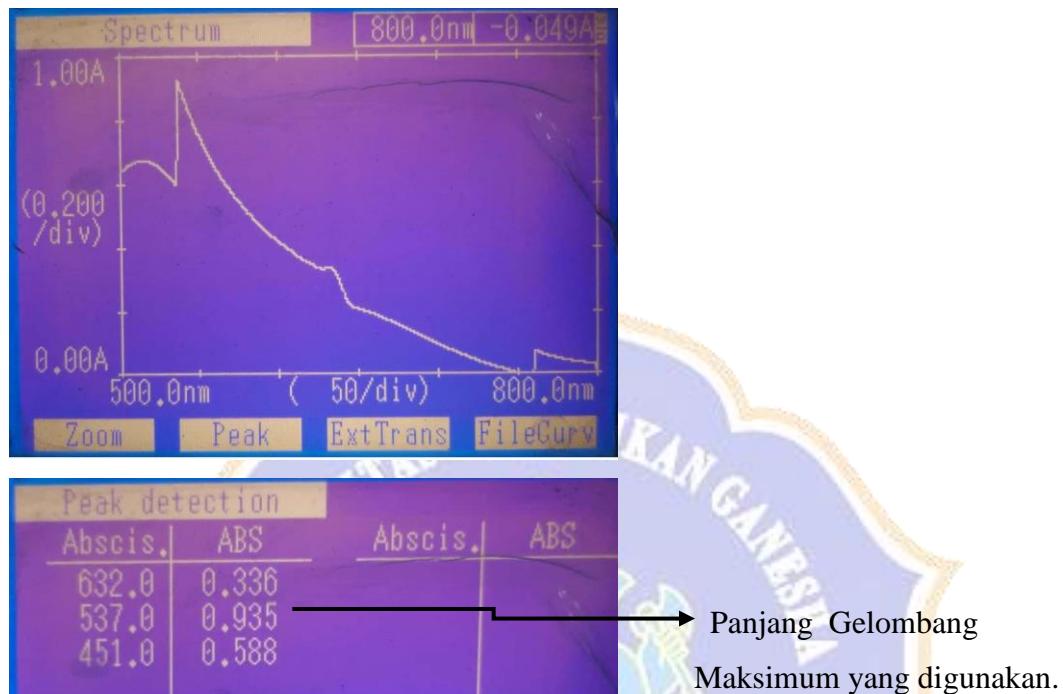
$$M_1 \times V_1 = M_2 \times V_2$$

$$1000 \text{ ppm} \times V_1 = 125 \text{ ppm} \times 5 \text{ mL}$$

$V_1 = 0,625 \text{ mL}$  atau  $625 \mu\text{L}$  (jumlah yang dipipet dari larutan induk 1000 ppm)



**LAMPIRAN 05.** Penentuan Panjang Gelombang Maksimum, ( $\lambda_{\text{mak}}$ ) Uji Aktivitas Antioksidan dengan Instrumen Spektrofotometri UV-Vis *Single beam*.



Panjang Gelombang

Maksimum yang digunakan.

**LAMPIRAN 06.** Penentuan Nilai % Inhibisi dan IC<sub>50</sub>.

- Nilai absorbansi metode distilasi uap air.

Nilai absorbansi blanko = 1,070 nm

$$\text{Inhibisi} = \frac{A_{\text{blanko}} - A_{\text{sampel}}}{A_{\text{blanko}}} \times 100\%$$

**Tabel 3.** Nilai % Inhibisis dan IC<sub>50</sub> Minyak Atsiri Kulit Jeruk Keprok  
Metode Distilasi Uap Air

Konsentrasi (ppm)	Rata- Rata Absorbansi (nm)	Inhibisi (%)	Nilai IC <sub>50</sub>
5	0.743	30.56	$y = 0,3225x + 29,114$
25	0.668	37.57	$IC_{50} \rightarrow 50 = 0,3225x + 29,114$
50	0.586	45.23	$50 - 29,114 = 0,3225x$
80	0.487	54.49	$20.886 = 0,3225$
125	0.325	69.63	$x = \frac{20.886}{0,3225}$
			$x = 64.763(\text{kuat})$

- Nilai absorbansi metode maserasi.

Nilai absorbansi blanko = 0,758nm

$$\text{Inhibisi} = \frac{A_{\text{blanko}} - A_{\text{sampel}}}{A_{\text{blanko}}} \times 100\%$$

**Tabel 4.** Nilai % Inhibisis dan IC<sub>50</sub> Minyak Atsiri Kulit Jeruk Keprok  
Metode Maserasi

Konsentrasi (ppm)	Rata- Rata Absorbansi (nm)	Inhibisi (%)	Nilai IC <sub>50</sub>
5	0.698	7.92	$y = 0.3654x + 1.5466$
25	0.678	10.55	$IC_{50} \rightarrow 50 = 0.3654x + 1.5466$
50	0.638	15.83	$50 - 1.5466 = 0.3654x$
80	0.564	25.59	$48.453 = 0.3654x$
125	0.364	51.98	$x = \frac{48.453}{0.3654}$
			$x = 132.603(\text{sedang})$

### 3. Nilai IC<sub>50</sub> Asam Askorbat

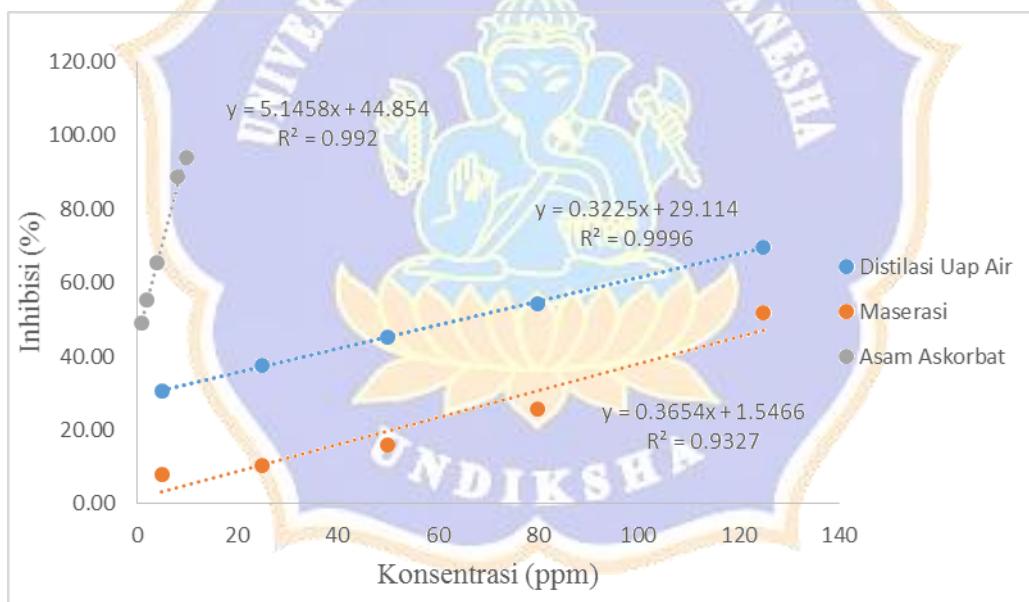
Nilai absorbansi blanko = 0,240 nm

$$\text{Inhibisi} = \frac{A_{\text{blanko}} - A_{\text{sampel}}}{A_{\text{blanko}}} \times 100\%$$

**Tabel 5.** Nilai % Inhibisi dan IC<sub>50</sub> Asam Askorbat

Konsentrasi (ppm)	Rata- Rata Absorbansi (nm)	Inhibisi (%)	Nilai IC <sub>50</sub>
1	0,122	49,17	$y = 5,1458x + 44,854$
2	0,107	55,42	$IC_{50} \rightarrow 50 = 5,1458x + 44,854$
4	0,083	65,42	$50 - 44,854 = 5,1458x$
8	0,027	88,75	$5,146 = 5,1458x$
10	0,014	94,17	$x = \frac{5,146}{5,1458}$
			$x = 1,000 \text{ (sangat kuat)}$

Grafik Regresi Linier Uji Antioksidan pada Minyak Atsiri Kulit Jeruk Keprok Metode Distilasi Uap air dan Maserasi serta Asam Askorbat.



**LAMPIRAN 07.** Analisis Uji Data SPSS Aktivitas Antioksidan Minyak Atsiri Kulit Jeruk Keprok (*Citrus reticulata*).

1.Uji Normalitas Aktivitas Antioksidan Minyak Atsiri Kulit Jeruk Keprok (*Citrus reticulata*)

Tests of Normality						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Maserasi	.243	5	0.200*	.847	5	0.186
Distilasi	.159	5	0.200*	.972	5	0.886

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Normalitas dari aktivitas antioksidan minyak atsiri kulit jeruk keprok (*Citrus reticulata*) yaitu untuk distilasi uap air  $0.886 > 0.05$  dan maserasi  $0.186 > 0.05$ .

2. Uji Homogenitas Aktivitas Antioksidan Minyak Atsiri Kulit Jeruk Keprok (*Citrus reticulata*).

Test of Homogeneity of Variances				
Antioksidan <i>C. reticulata</i>				
Levene Statistic	df1	df2	Sig.	
.065	1	8	0.805	

Homogenitas dari aktivitas antioksidan minyak atsiri kulit jeruk keprok (*Citrus reticulata*) yaitu  $0.805 > 0.05$

3. Uji t-Test Aktivitas Antioksidan Minyak Atsiri Kulit Jeruk Keprok  
(*Citrus reticulata*)

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	
Antioksidan C. <i>reticulata</i>	Equal variances assumed	0.065	0.805	-2.391	8	0.044	25.1220	9.493500	-0.89400	-0
	Equal variances not assumed			1			0			0

1. Berdasarkan hasil uji t-Test diatas dengan menggunakan SPSS di hasilkan bahwa taraf signifikan 2-tailed yaitu 0.044 dimana  $< 0.05$  sehingga  $H_0$  ditolak dan  $H_a$  diterima.
2. Berdasarkan hasil uji t-Test diatas dengan menggunakan SPSS di hasilkan yaitu  $2.391 > 2.306$  yang dimana t hitung lebih besar dari t tabel maka  $H_0$  ditolak dan  $H_a$  diterima.

**LAMPIRAN 08.** Perhitungan Uji Aktivitas Antibakteri.

- Pembuatan Nutrien agar sebagai media miring dalam peremajaan bakteri  
Media peremajaan bakteri dibuat sebanyak 200 mL dengan konsentrasi yang setara dengan 20 gram/1000 mL atau 2%.

$$2\% = \frac{b}{v} \times 100\%$$

$$0,02 = \frac{b}{200} \times 1$$

- Larutan standar Mc.Farland 0,5
  - Pembuatan H<sub>2</sub>SO<sub>4</sub> 1% sebanyak 10 mL, dengan melakukan pengenceran konsentrasi H<sub>2</sub>SO<sub>4</sub> 100%

$$M_1 \times V_1 = M_2 \times V_2$$

$$100\% \times V_1 = 1\% \times 10 \text{ mL}$$

$$V_1 = 0,1 \text{ mL}$$

- Pembuatan BaCl<sub>2</sub> 1,175% sebanyak 1 mL

$$1,175\% = \frac{b}{v} \times 100\%$$

$$0,01175 = \frac{b}{1} \times 1$$

$$b = 0,01175 \text{ gram}$$

Pembuatan larutan standar Mc.Farland 0,5 dengan mencampurkan sebanyak 0,05 mL BaCl<sub>2</sub> 1,175% dengan 9,95 mL H<sub>2</sub>SO<sub>4</sub> 1% sehingga menghasilkan larutan yang keruh.

- Perhitungan minyak atsiri jeruk keprok (*Citrus reticulata*) metode distilasi uap air dan maserasi, dalam penentuan KHM.

- Konsentrasi 5%

$$5\% = \frac{v}{v} \times 100\%$$

$$0,05 = \frac{v}{1,5 \text{ mL}} \times 1$$

$$v = 0,075 \text{ mL (75 } \mu\text{L})$$

- Konsentrasi 10%

$$10\% = \frac{v}{v} \times 100\%$$

$$0,1 = \frac{v}{1,5 \text{ mL}} \times 1$$

$$v = 0,15 \text{ mL (150 } \mu\text{L})$$

c. Konsentrasi 15%

$$15\% = \frac{v}{V} \times 100\%$$

$$0,15 = \frac{v}{1,5 \text{ mL}} \times 1$$

$$v = 0,225 \text{ mL (} 225 \mu\text{L})$$

d. Konsentrasi 20%

$$20\% = \frac{v}{V} \times 100\%$$

$$0,2 = \frac{v}{1,5 \text{ mL}} \times 1$$

$$v = 0,3 \text{ mL (} 300 \mu\text{L})$$

e. Konsentrasi 25%

$$25\% = \frac{v}{V} \times 100\%$$

$$0,25 = \frac{v}{1,5 \text{ mL}} \times 1$$

$$v = 0,375 \text{ mL (} 375 \mu\text{L})$$

f. Konsentrasi 30%

$$30\% = \frac{v}{V} \times 100\%$$

$$0,3 = \frac{v}{1,5 \text{ mL}} \times 1$$

$$v = 0,45 \text{ mL (} 450 \mu\text{L})$$

4. Perhitungan minyak atsiri jeruk keprok (*Citrus reticulata*) metode distilasi uap air dan maserasi, dalam konsentrasi zona hambat

a. Konsentrasi 25%

$$25\% = \frac{v}{V} \times 100\%$$

$$0,25 = \frac{v}{0,05 \text{ mL}} \times 1$$

$$v = 0,125 \text{ mL (} 125 \mu\text{L})$$

b. Konsentrasi 50%

$$50\% = \frac{v}{V} \times 100\%$$

$$0,50 = \frac{v}{0,05 \text{ mL}} \times 1$$

$$v = 0,25 \text{ mL (} 250 \mu\text{L})$$

c. Konsentrasi 75%

$$75\% = \frac{v}{V} \times 100\%$$

$$0,75 = \frac{v}{0,05 \text{ mL}} \times 1$$

$$v = 0,375 \text{ mL (} 375 \mu\text{L})$$

d. Konsentrasi 100%

$$100\% = \frac{v}{V} \times 100\%$$

$$1 = \frac{v}{0,05 \text{ mL}} \times 1$$

$$v = 0,5 \text{ mL (} 500 \mu\text{L})$$

5. Zona hambat aktivitas antibakteri minyak atsiri jeruk keprok (*Citrus reticulata*) metode distilasi uap air dan maserasi pada bakteri *S. aureus* dan *E. coli*.

**Tabel 6.** Zona hambat minyak minyak atsiri jeruk keprok (*Citrus reticulata*) metode distilasi uap air dan maserasi pada bakteri *S. aureus*

**Tabel 7.** Zona hambat minyak minyak atsiri jeruk keprok (*Citrus reticulata*) metode distilasi uap air dan maserasi pada bakteri *E.coli*

**LAMPIRAN 09.** Analisis Uji Data SPSS Aktivitas Antibakteri Minyak Atsiri Kulit Jeruk Keprok (*Citrus reticulata*) pada Bakteri *S. aureus* dan *E. coli*

1. Aktivitas Antibakteri Minyak Atsiri Kulit Jeruk Keprok (*Citrus reticulata*) pada bakteri *S. aureus*
  - a. Uji Normalitas Aktivitas Antibakteri Minyak Atsiri Kulit Jeruk Keprok (*Citrus reticulata*)

Tests of Normality						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Distilasi	0.198	4	.	0.986	4	0.938
Maserasi	0.307	4	.	0.879	4	0.335

a. Lilliefors Significance Correction

Normalitas dari aktivitas antibakteri minyak atsiri kulit jeruk keprok (*Citrus reticulata*) pada bakteri *S.aureus* yaitu untuk distilasi uap air  $0.938 > 0.05$  dan maserasi  $0.335 > 0.05$ .

- b. Uji Homogenitas Aktivitas Antibakteri Minyak Atsiri Kulit Jeruk Keprok (*Citrus reticulata*) pada bakteri *S.aureus*

Test of Homogeneity of Variances				
Aktivitas Antibakteri <i>S.aureus</i>				
Levene	Statistic	df1	df2	Sig.
	0.158	1	6	0.705

Homogenitas dari aktivitas antibakteri minyak atsiri kulit jeruk keprok (*Citrus reticulata*) pada bakteri *S.aureus* yaitu  $0.705 > 0.05$

- c. Uji t-Test Aktivitas Antibakteri Minyak Atsiri Kulit Jeruk Keprok (*Citrus reticulata*) pada bakteri *S.aureus*

Independent Samples Test								
	Levene's Test for Equality of Variances				t-test for Equality of Means			
					95%			
	F	Sig.	t	df	Sig. (2-tailed)	Mean Differ ence	Std. Error Differ ence	Confidence Interval of the Difference
Aktivitas Antibakteri <i>S.aureus</i>	Equal variances assumed	0.158	0.705	1.72 8	0.135	2.5850	1.4957 0	- 6.2449 0
	Equal variances not assumed			1.72 8	5.74 3	0.137	2.5850	1.4957 0
								- 6.2850 2

Berdasarkan hasil uji t-Test diatas dengan menggunakan SPSS dihasilkan bahwa taraf signifikan 2-tailed yaitu  $0.135 > 0,05$  sehingga  $H_0$  diterima dan  $H_a$  ditolak.

2. Aktivitas Antibakteri Minyak Atsiri Kulit Jeruk Keprok (*Citrus reticulata*) pada bakteri *E. coli*
  - a. Uji Normalitas Aktivitas Antibakteri Minyak Atsiri Kulit Jeruk Keprok (*Citrus reticulata*) pada bakteri *E. coli*

Tests of Normality						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Distilasi	0.187	4	.	0.966	4	0.814
Maserasi	0.237	4	.	0.958	4	0.768

#### a. Lilliefors Significance Correction

Normalitas dari aktivitas antibakteri minyak atsiri kulit jeruk keprok (*Citrus reticulata*) pada bakteri *E.coli* yaitu untuk distilasi uap air  $0.814 > 0.05$  dan maserasi  $0.768 > 0.05$ .

- b. Uji Homogenitas Aktivitas Antibakteri Minyak Atsiri Kulit Jeruk Keprok (*Citrus reticulata*) pada bakteri *E.coli*

Test of Homogeneity of Variances			
Antibakteri E.coli			
Levene Statistic	df1	df2	Sig.
0.269	1	6	0.623

Homogenitas dari aktivitas antibakteri minyak atsiri kulit jeruk keprok (*Citrus reticulata*) pada bakteri *E.coli* yaitu  $0.823 > 0.05$

- c. Uji t-Test Aktivitas Antibakteri Minyak Atsiri Kulit Jeruk Keprok (*Citrus reticulata*) pada bakteri *E.coli*

Independent Samples Test										
		Levene's Test for Equality of Variances			t-test for Equality of Means					
							95%			
		F	Sig.	t	df	Sig. (2- tailed)	Mean Differ- ence	Std. Error Differ- ence	Confidence Interval of the Difference	
									Lower	Upper
Antiba- kteri <i>E.coli</i>	Equal variances assumed	0.269	0.623	3.42	6	0.014	3.4600	1.0103	.98781	5.9321
	Equal variances not assumed				5			0	3	9
						3.42	0.015	3.4600	1.0103	.95957
						5	2	0	3	3

Berdasarkan hasil uji t-Test diatas dengan menggunakan SPSS di hasilkan bahwa taraf signifikan 2-tailed yaitu  $0.014 < 0,05$  sehingga  $H_0$  ditolak dan  $H_a$  diterima.

**LAMPIRAN 10.** Aktivitas Larvasidan Minyak Atsiri Kulit Jeruk Keprok (*Citrus reticulata*) metode Distilasi Uap Air dan Maserasi.

- Perhitungan Larva Nyamuk *Aedes Aegepty* Minyak Atsiri Kulit Jeruk Keprok Metode Distilasi Upa Air

**Tabel 8.** Mortalitas Larva Nyamuk *Aedes Aegepty* pada Minyak Atsiri Kulit Jeruk Keprok Dengan Metode Distilasi Uap Air

Jam	Konsentrasi minyak atsiri kulit jeruk keprok metode distilasi uap											
	0 ppm			10 ppm			100 ppm			1000 ppm		
	R1	R2	R3	R1	R2	R3	R1	R2	R3	R1	R2	R3
0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	2	1	2	2	1	3	3	4	4
48	0	0	0	3	2	3	4	3	4	7	6	7
72	0	0	0	5	5	5	6	6	6	7	8	8

- Analisis Probit LC50 minyak atsiri kulit jeruk keprok metode distilasi uap air

Data Information	
N of Cases	
Valid	3
Rejected	0
Missing	0
LOG Transform Cannot be Done	0
Number of Responses >	0
Number of Subjects	
Control Group	1

Convergence Information	
Optimal	
Number of Iterations	Solution Found
PROBIT	8 Yes

Parameter Estimates						
Parameter	Estimate	Std. Error	Z	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
	konsentrasi	,360	,169	2,128	,033	,028 ,692
PROBIT <sup>a</sup>	Intercept	-,395	,356	-1,110	,267	-,751 -,039

PROBIT model: PROBIT(p) = Intercept + BX (Covariates X are transformed using the base 10.000 logarithm.)

Chi-Square Tests			
	Chi-Square	df <sup>b</sup>	Sig.
PROBIT Pearson Goodness-of-Fit Test	,149	1	,700 <sup>a</sup>

- a. Since the significance level is greater than .050, no heterogeneity factor is used in the calculation of confidence limits.
- b. Statistics based on individual cases differ from statistics based on aggregated cases.

Cell Counts and Residuals						
	Log Number	Konsentrasi	Number of Subjects	Observed Responses	Expected Responses	Residual
PROBIT	1	1,000	30	15	14,581	0,419
	2	2,000	30	18	18,826	-0,826
	3	3,000	30	23	22,606	0,394

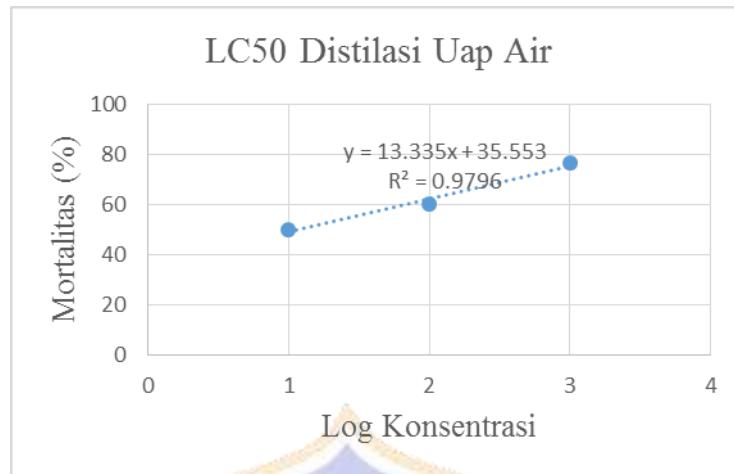
Confidence Limits			
95% Confidence Limits for konsentrasi			
Probability	Estimate	Lower Bound	Upper Bound
PROBIT ,010	,000	,000	,015
	,000	,000	,038
	,000	,000	,068
	,000	,000	,106
	,000	,000	,152
	,001	,000	,206
	,001	,000	,270
	,002	,000	,343
	,002	,000	,427
	,003	,000	,523
	,017	,000	1,217
	,058	,000	2,401
	,168	,000	4,342

a. Logarithm base = 10.

b.

**Tabel 9.** Perhitungan dan Kurva LC<sub>50</sub> Minyak Atsiri Kulit Jeruk Keprok Metode Distilasi Uap Air.

No	Konsentrasi (ppm)	Log Konsentrasi	Mortalitas (%)
1	10	1	50
2	100	2	60
3	1000	3	76.67



Regresi linier :  $y = 13.335x + 35.553$

$$LC_{50}: y = 13.335x + 35.553$$

$$50 = 13.335x + 35.553$$

$$50 - 35.553 = 13.335x$$

$$X = 1,083$$

Log yang menghasilkan nilai 1,083 adalah 12,107

Nilai LC<sub>50</sub> minyak atsiri kulit jeruk keprok metode distilasi uap air mampu mematikan 50% larva nyamuk Aedes aegepty pada konsentrasi 12,107 ppm.

### c. Korelasi Pearson Minyak Atsiri Kulit Jeruk Keprok Metode Distilasi Uap Air

Correlations					
		Konsenra	Konsenra	Konsenra	Konsenra
		Jam	si10ppm	si100ppm	si1000ppm
Jam	Pearson Correlation	1	0.988*	0.998**	0.973*
	Sig. (2-Tailed)		0.012	0.002	0.027
	N	8	4	4	4
Konsentrasi10 ppm	Pearson Correlation	0.988*	1	0.996**	0.935
	Sig. (2-Tailed)	0.012		0.004	0.065

	N	4	4	4	4
Konsentrasi 100 ppm	Pearson Correlation	0.998*	0.996**	1	0.961*
	Sig. (2-Tailed)	0.002	0.004		0.039
	N	4	4	4	4
Konsentrasi 1000 ppm	Pearson Correlation	0.973*	0.935	0.961*	1
	Sig. (2-Tailed)	0.027	0.065	0.039	
	N	4	4	4	4

\*. Correlation Is Significant At The 0.05 Level (2-Tailed).

\*\*. Correlation Is Significant At The 0.01 Level (2-Tailed).

2. Perhitungan Larva Nyamuk *Aedes Aegepty* Minyak Atsiri Kulit Jeruk Keprok Metode Maserasi

a. **Tabel 10.** Mortalitas Larva Nyamuk *Aedes Aegepty* pada Minyak Atsiri Kulit Jeruk Keprok dengan Metode Maserasi

Jam	Konsentrasi minyak atsiri kulit jeruk keprok metode maserasi											
	0 ppm			10 ppm			100 ppm			1000 ppm		
	R1	R2	R3	R1	R2	R3	R1	R2	R3	R1	R2	R3
0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	1	1	0	1	2	1	3	3	4
48	0	0	0	2	2	2	3	3	2	5	5	6
72	0	0	0	5	4	4	5	5	5	8	7	6

- b. Analisis Probit LC<sub>50</sub> Minyak Atsiri Kulit Jeruk Keprok Metode Maserasi

Data Information	
5	N of Cases
Valid	3
Rejected	0
LOG Transform Cannot be Done	0
Number of Responses > Number of Subjects	0
Control Group	1

Convergence Information							
	Number of Iterations		Optimal Solution Found				
PROBIT					8	Yes	
Parameter Estimates							
					95% Confidence Interval		
	Parameter	Estimate	Std. Error	Z	Sig.	Lower Bound	Upper Bound
PROBIT <sup>a</sup>	Konsentrasi	.344	.166	2.071	.038	.018	.669
	Intercept	-.571	.354	-1.610	.107	-.925	-.216

a. PROBIT model: PROBIT(p) = Intercept + BX (Covariates X are transformed using the base 10.000 logarithm.)

Chi-Square Tests			
		Chi-Square	df <sup>b</sup>
PROBI	Pearson Goodness-of-Fit Test	0.398	1
			0.528 <sup>a</sup>

a. Since the significance level is greater than 0.050, no heterogeneity factor is used in the calculation of confidence limits.  
b. Statistics based on individual cases differ from statistics based on aggregated cases.

Cell Counts and Residuals						
	Log Number	Konsentrasi	Number of Subjects	Observed Responses	Expected Responses	Residual Probability
PROBIT	1	1.000	30	13	12.307	.693 .410
	2	2.000	30	15	16.394	-1.394 .546
	3	3.000	30	21	20.321	.679 .677

Confidence Limits			
95% Confidence Limits for Konsentrasi			
Probability	Estimate	Lower Bound	Upper Bound
PROBIT	.010	.000	.000 .024
	.020	.000	.000 .062
	.030	.000	.000 .114
	.040	.000	.000 .180
	.050	.001	.000 .261

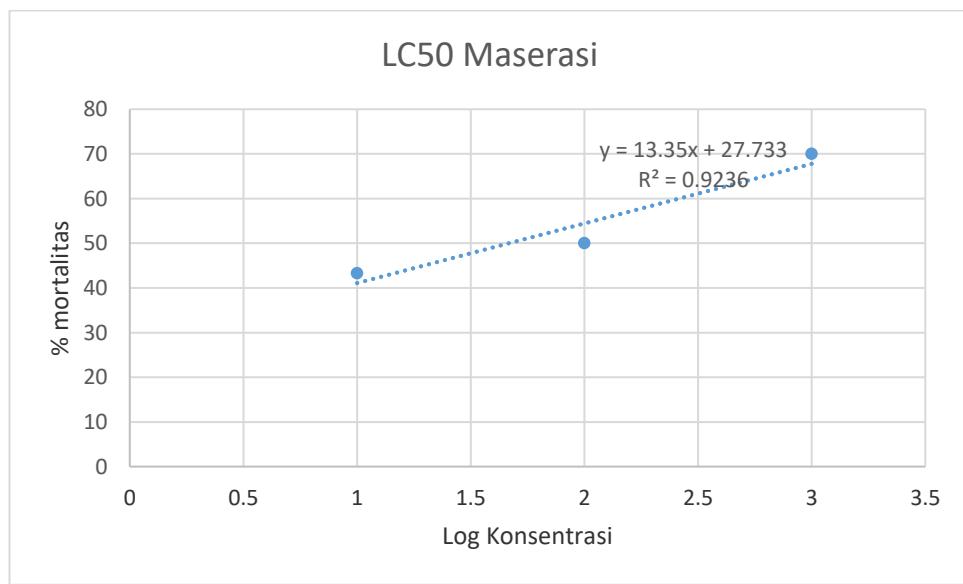
Probability	95% Confidence Limits for Konsentrasi		
	Estimate	Lower Bound	Upper Bound
.060	.001	.000	.358
.070	.002	.000	.473
.080	.004	.000	.608
.090	.006	.000	.764
.100	.009	.000	.944
.150	.044	.000	2.279
.200	.163	.000	4.656
.250	.499	.000	8.741
.300	1.363	.000	15.769
.350	3.461	.000	28.325
.400	8.380	.000	53.139
.450	19.714	.000	116.234
.500	45.751	.000	464.275
.550	106.178	1.086	71703.113
.600	249.782	32.813	30221965550.000
.650	604.729	103.445	2114950445000000000.000
.700	1535.463	221.234	5423147320000000000000000.000
			00
.750	4197.115	432.025	62415250560000000000000000000000.000
			0000000.000
.800	12860.263	846.647	6.355E+41
.850	47434.101	1775.055	2.098E+52
.900	245078.861	4360.534	3.725E+65
.910	364392.085	5400.048	5.925E+68
.920	560672.655	6804.977	1.783E+72
.930	900492.952	8765.789	1.192E+76
.940	1528601.300	11617.573	2.233E+80
.950	2795105.427	15999.101	1.669E+85
.960	5679846.814	23268.941	8.889E+90
.970	13580250.370	36816.591	9.759E+97
.980	43266540.360	67600.665	2.236E+107
.990	268737096.100	175474.302	1.271E+122

a. Logarithm base = 10.

c.

**Tabel 11.** Perhitungan dan Kurva LC<sub>50</sub> Minyak Atsiri Kulit Jeruk Keprok Metode Maserasi

No	Konsentrasi (ppm)	Log Konsentrasi	Mortalitas (%)
1	10	1	43.3
2	100	2	50
3	1000	3	70



Regresi linier :  $y = 13.35x + 27.733$

LC<sub>50</sub>:  $y = 13.35x + 27.733$

$$50 = 13.35x + 27.733$$

$$50 - 27.733 = 13.35x$$

$$X = 1,66$$

Log yang menghasilkan nilai 1,66 adalah 45,751

Nilai LC<sub>50</sub> minyak atsiri kulit jeruk keprok metode distilasi uap air mampu mematikan 50% larva nyamuk Aedes aegepty pada konsentrasi 45,751 ppm.

d. Korelasi Pearson Minyak Atsiri Kulit Jeruk Keprok Metode Maserasi

		Correlations			
		Jam	Konsentrasi1 0ppm	Konsentrasi1 00ppm	Konsentrasi1 000ppm
Jam	Pearson Correlation	1	0.968*	0.989*	0.986*
	Sig. (2-Tailed)		0.032	0.011	0.014
	N	8	4	4	4
Konsentrasi10ppm	Pearson Correlation	0.968*	1	0.992**	0.915
	Sig. (2-Tailed)	0.032		0.008	0.085
	N	4	4	4	4
Konsentrasi100ppm	Pearson Correlation	0.989*	0.992**	1	0.956*
	Sig. (2-Tailed)	0.011	0.008		0.044
	N	4	4	4	4
Konsentrasi1000pp m	Pearson Correlation	0.986*	0.915	0.956*	1
	Sig. (2-Tailed)	0.014	0.085	0.044	
	N	4	4	4	4

\*. Correlation Is Significant At The 0.05 Level (2-Tailed).

\*\*. Correlation Is Significant At The 0.01 Level (2-Tailed).



**LAMPIRAN 11.** Analisis Uji Data SPSS Aktivitas Larvasida Minyak Atsiri Kulit Jeruk Keprok (*Citrus reticulata*)

- a. Uji Normalitas Aktivitas Larvasida Minyak Atsiri Kulit Jeruk Keprok (*Citrus reticulata*)

Tests of Normality						
	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	Df	Sig.	Statistic	df	Sig.
maserasi	.292	3	.	0.923	3	0.463
distilasi	.232	3	.	0.980	3	0.726

a. Lilliefors Significance Correction

Normalitas dari aktivitas antioksidan minyak atsiri kulit jeruk keprok (*Citrus reticulata*) yaitu untuk maserasi  $0.463 > 0.05$ , dan distilasi uap air  $0.726 > 0.05$

- b. Uji Homogenitas Aktivitas Larvasida Minyak Atsiri Kulit Jeruk Keprok (*Citrus reticulata*).

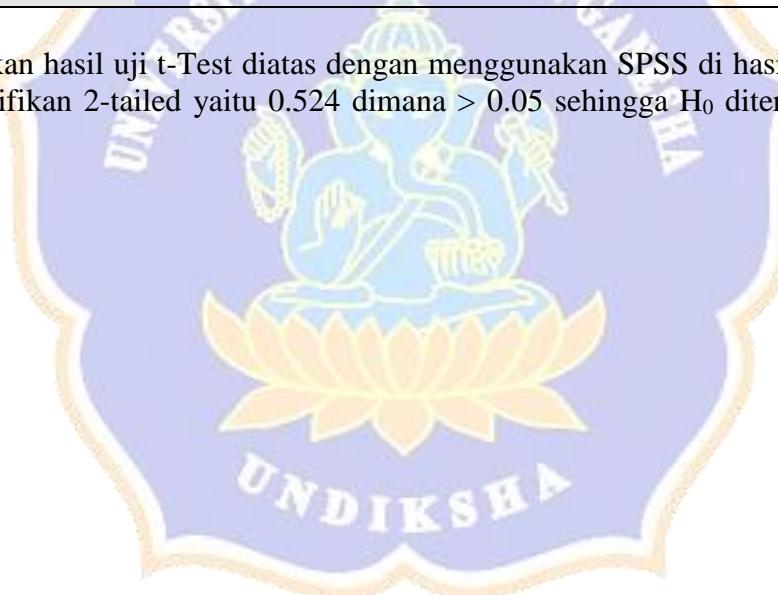
Test of Homogeneity of Variances			
larvasida citrus reticulata			
Levene			
Statistic	df1	df2	Sig.
.022	1	4	0.888

Homogenitas dari aktivitas antioksidan minyak atsiri kulit jeruk keprok (*Citrus reticulata*) yaitu  $0.888 > 0.05$ .

c. Uji t-Test Aktivitas Larvasida Minyak Atsiri Kulit Jeruk Keprok  
*(Citrus reticulata)*

Independent Samples Test										
	Levene's Test for Equality of Variances					t-test for Equality of Means				
						Std. 95% Confidence				
	F	Sig.	t	df	tailed)	Sig. (2-tailed)	Mean Difference	Error Difference	Interval of the Difference	
										Lower Upper
larvasida	Equal variances assumed	.022	0.888	-	4	0.524	-	3.3499	-	6.9676
citrus						0.69		2.3333	6	11.634
reticulata						7		3		31
	Equal variances not assumed					- 3.99	0.524	-	3.3499	-
						0.69	6	2.3333	6	11.637
						7		3		55

Berdasarkan hasil uji t-Test diatas dengan menggunakan SPSS di hasilkan bahwa taraf signifikan 2-tailed yaitu 0.524 dimana  $> 0.05$  sehingga  $H_0$  diterima dan  $H_a$  ditolak.



**LAMPIRAN 12.** Penentuan Berat Jenis Minyak Atsiri Kulit Jeruk Keprok Menggunakan Metode Distilasi Uap Dair dan Maserasi.

1. Berat jenis minyak atsiri kulit jeruk keprok metode distilasi uap air.

a. Berat jenis air pada suhu 25°C = 0.9971 gr/mL

b. Berat piknometer kosong = 7.0178 gram

c. Berat piknometer + air = 16.9898 gram

d. Massa minyak atsiri kulit jeruk keprok + botol = 15.6488 gram

$$\text{e. Massa air} = (\text{Berat piknometer} + \text{air}) - (\text{Berat piknometer kosong})$$

$$= (16.9898 - 7.0178) \text{ gram}$$

$$= 9.972 \text{ gram}$$

f. Volume air :

$$\text{Volume air} = \frac{\text{massa (gr)}}{\text{berat jenis } (\frac{\text{gr}}{\text{mL}})}$$

$$= \frac{9.972}{0.9971}$$

$$= 10.001 \text{ mL}$$

g. Massa minyak atsiri kulit jeruk keprok:

$$\text{Massa minyak} = (\text{Berat piknometer} + \text{minyak}) - (\text{Berat piknometer kosong})$$

$$= (15.6488 - 7.0178) \text{ gram}$$

$$= 8.631 \text{ gram}$$

h. Berat jenis minya atsiri kulit jeruk keprok :

$$\text{Berat jenis minyak} = \frac{\text{massa (gr)}}{\text{volume(mL)}}$$

$$= \frac{8.631}{4.98 \cdot 10.001}$$

$$= 0.863 \text{ gr/mL}$$

2. Berat jenis minyak atsiri kulit jeruk keprok metode maserasi.
- Berat jenis air pada suhu 25°C = 0.9971 gr/mL
  - Berat piknometer kosong = 12.1400 gram
  - Berat piknometer + air = 26.0750 gram
  - Berat piknometer + minyak atsiri kulit jeruk keprok = 24.41 gram
  - Massa air = (Berat piknometer + air)-( Berat piknometer kosong)  

$$= (26.0750 - 12.1400) \text{ gram}$$
  

$$= 13.935 \text{ gram}$$

f. Volume air :

$$\text{Volume air} = \frac{\text{massa (gr)}}{\text{berat jenis } (\frac{\text{gr}}{\text{mL}})}$$

$$= \frac{13.935}{0.9971}$$

$$= 13.98 \text{ mL}$$

g. Massa minyak atsiri kulit jeruk keprok:

$$\begin{aligned} \text{Massa minyak} &= (\text{Berat piknometer} + \text{minyak}) - (\text{Berat piknometer kosong}) \\ &= (24.41 - 12.1400) \text{ gram} \\ &= 12.27 \text{ gram} \end{aligned}$$

h. Berat jenis minya atsiri kulit jeruk keprok :

$$\begin{aligned} \text{Berat jenis minyak} &= \frac{\text{massa (gr)}}{\text{volume(mL)}} \\ &= \frac{12.27}{13.98} \\ &= 0.878 \text{ gr/mL} \end{aligned}$$

**LAMPIRAN 13.** Dokumentasi Pengambilan Data.

Kulit jeruk keprok ditimbang  
dengan massa 250g.



Refraktometer.



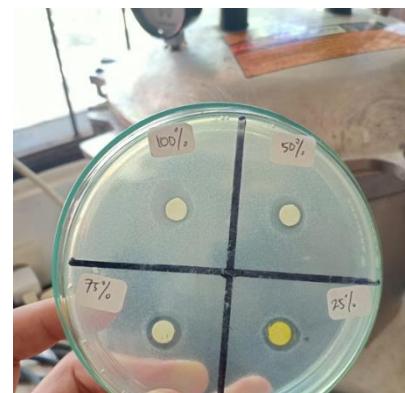
Merasasi kulit jeruk keprok (*Citrus reticulata*).



Bakteri *E.coli*.

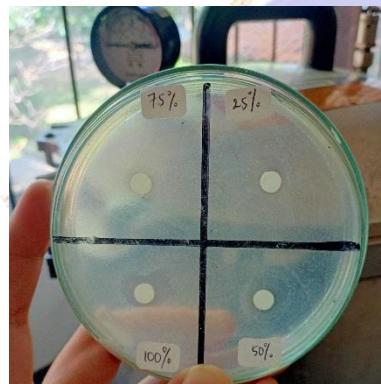


Bakteri *S.aureus*.

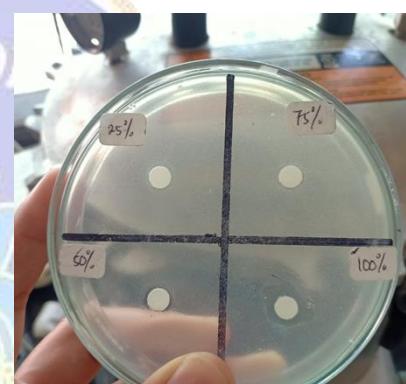


Uji antibakteri minyak atsiri kulit  
keprok metode maserasi bakteri

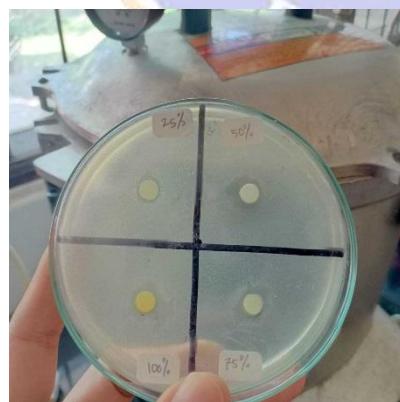
*S.aureus*.



Uji antibakteri minyak atsiri kulit  
jeruk keprok metode distilasi  
bakteri *S.aureus*.



Uji antibakteri minyak atsiri kulit  
jeruk keprok metode distilasi bakteri  
*E.coli*.



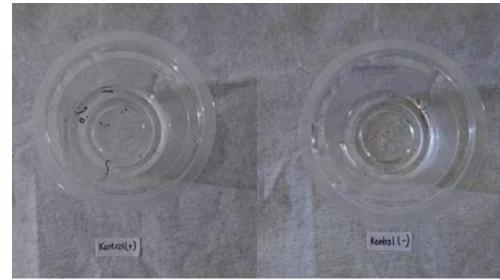
Uji antibakteri minyak atsiri kulit  
keprok metode maserasi bakteri  
*E.coli*.



Kontrol *E.coli*.



Kontrol *S.aureus*.



Kontrol uji aktivitas larvasida.



Uji aktivitas larvasida metode isolasi  
isolasi maserasi.



Uji aktivitas larvasida metode isolasi  
distilasi uap air.



**LAMPIRAN 14.** Komponen dan Kandungan Kimia Minyak Atsiri Kulit Jeruk  
Keprok Metode Maserasi

Library Search Report							
Data Path	D:\MassHunter\GCMS\2\						
Data File	2020_11_23_C_Reticulata_M.D						
Acq On	23 Nov 2020 17:27						
Operator	NGR						
Sample	Undiksa/Kimia						
Misc	Laksmi						
ALS Vial	1 Sample Multiplier: 1						
Search Libraries:	D:\DATABASE\NIST14.L			Minimum Quality: 0			
Unknown Spectrum:	Apex						
Integration Events:	ChemStation Integrator - autoint1.e						
Pk#	RT	Area%	Library/ID	Ref#	CAS#	Qual	
1	2.417	0.07	D:\DATABASE\NIST14.L				
			Hexanal	3830	000066-25-1	58	
			Hexanal	3833	000066-25-1	50	
			2-Oxo-3-methyl-cis-perhydro-1,3-benzoxazine	39452	1000138-84-6	22	
2	4.237	0.57	D:\DATABASE\NIST14.L				
			Bicyclo[3.1.0]hex-2-ene, 2-methyl-	16271	002867-05-2	97	
			5-(1-methylethyl)-				
			Bicyclo[3.1.0]hex-2-ene, 4-methyl-	16269	028634-89-1	94	
			1-(1-methylethyl)-				
			Bicyclo[3.1.0]hex-2-ene, 2-methyl-	16277	002867-05-2	91	
			5-(1-methylethyl)-				
3	4.374	1.90	D:\DATABASE\NIST14.L				
			(1R)-2,6,6-Trimethylbicyclo[3.1.1]	16224	007785-70-8	97	
			hept-2-ene				
			.alpha.-Pinene	16070	000080-56-8	96	
			.alpha.-Pinene	16063	000080-56-8	95	
4	5.064	4.28	D:\DATABASE\NIST14.L				
			Bicyclo[3.1.0]hexane, 4-methylene-	16270	003387-41-5	96	
			1-(1-methylethyl)-				
			.beta.-Phellandrene	16088	000555-10-2	91	
			Bicyclo[3.1.0]hex-2-ene, 4-methyl-	16276	028634-89-1	91	
			1-(1-methylethyl)-				
5	5.335	3.50	D:\DATABASE\NIST14.L				
			.beta.-Myrcene	16066	000123-35-3	94	
			.beta.-Myrcene	16064	000123-35-3	90	
			.beta.-Myrcene	16061	000123-35-3	80	
6	5.539	0.84	D:\DATABASE\NIST14.L				
			Octanal	12689	000124-13-0	91	
			Octanal	12691	000124-13-0	91	
			Octanal	12692	000124-13-0	87	
7	5.835	0.44	D:\DATABASE\NIST14.L				
			Cyclohexene, 1-methyl-4-(1-methylethylidene)-	16230	000586-62-9	97	
			1,3-Cyclohexadiene, 1-methyl-4-(1-methylethyl)-	16247	000099-86-5	97	
			Cyclohexene, 1-methyl-4-(1-methylethylidene)-	16238	000586-62-9	95	
8	6.090	16.77	D:\DATABASE\NIST14.L				
			D-Limonene	16046	005989-27-5	98	
			Limonene	16031	000138-86-3	94	
			D-Limonene	16044	005989-27-5	93	
9	6.362	0.49	D:\DATABASE\NIST14.L				
			1,3,6-Octatriene, 3,7-dimethyl-, (Z)-	16175	003338-55-4	98	
			.beta.-Ocimene	16062	013877-91-3	97	

Bahan Alam New.M Mon Nov 23 17:59:58 2020

## Library Search Report

Data Path : D:\MassHunter\GCMS\2\  
 Data File : 2020\_11\_23\_C Reticulata\_M.D  
 Acq On : 23 Nov 2020 17:27  
 Operator : NGR  
 Sample : Undiksa/Kimia  
 Misc : Laksmi  
 ALS Vial : 1 Sample Multiplier: 1

Search Libraries: D:\DATABASE\NIST14.L Minimum Quality: 0

Unknown Spectrum: Apex  
 Integration Events: ChemStation Integrator - autoint1.e

Pk#	RT	Area%	Library/ID	Ref#	CAS#	Qual
			1,3,7-Octatriene, 3,7-dimethyl-	16133	000502-99-8	96
10	6.580	5.59	D:\DATABASE\NIST14.L 3-Carene (1R)-2,6,6-Trimethylbicyclo[3.1.1] hept-2-ene Tricyclo[2.2.1.0(2,6)]heptane, 1,3 ,3-trimethyl-	16028 16224 16250	013466-78-9 007785-70-8 000488-97-1	94 94 94
11	6.738	0.85	D:\DATABASE\NIST14.L 1-Octanol Octyl chloroformate 1-Octanol	13936 58207 13945	000111-87-5 007452-59-7 000111-87-5	90 90 87
12	7.095	1.07	D:\DATABASE\NIST14.L (+)-4-Carene Cyclohexene, 1-methyl-4-(1-methyle thylidene)- Cyclohexene, 1-methyl-4-(1-methyle thylidene)-	16052 16238 16237	029050-33-7 000586-62-9 000586-62-9	98 97 97
13	7.269	2.96	D:\DATABASE\NIST14.L Linalool Linalool Linalool	27447 27451 27452	000078-70-6 000078-70-6 000078-70-6	97 94 90
14	7.936	0.26	D:\DATABASE\NIST14.L Limonene oxide, trans- Limonene oxide, trans- (+)-(E)-Limonene oxide	25872 25881 25879	004959-35-7 004959-35-7 006909-30-4	80 74 49
15	8.150	0.28	D:\DATABASE\NIST14.L 6-Octenal, 3,7-dimethyl-, (R)- Citronellal Citronellal	27601 27479 27474	002385-77-5 000106-23-0 000106-23-0	97 96 87
16	8.442	0.33	D:\DATABASE\NIST14.L Octanoic acid Octanoic acid Octanoic acid	21385 21384 21381	000124-07-2 000124-07-2 000124-07-2	92 70 53
17	8.603	0.49	D:\DATABASE\NIST14.L Terpinen-4-ol 3-Cyclohexen-1-ol, 4-methyl-1-(1-m ethyl)-, (R)- Terpinen-4-ol	27505 27776 27498	000562-74-3 020126-76-5 000562-74-3	96 96 95
18	8.813	0.86	D:\DATABASE\NIST14.L .alpha.-Terpineol Terpineol L-.alpha.-Terpineol	27528 27454 27531	000098-55-5 1000411-59-6 010482-56-1	94 90 72
19	8.977	1.50	D:\DATABASE\NIST14.L Decanal	29133	000112-31-2	99

## Library Search Report

Data Path : D:\MassHunter\GCMS\2\  
 Data File : 2020\_11\_23\_C Reticulata\_M.D  
 Acq On : 23 Nov 2020 17:27  
 Operator : NGR  
 Sample : Undiksa/Kimia  
 Misc : Laksmi  
 ALS Vial : 1 Sample Multiplier: 1

Search Libraries: D:\DATABASE\NIST14.L Minimum Quality: 0

Unknown Spectrum: Apex  
 Integration Events: ChemStation Integrator - autoint1.e

Pk#	RT	Area%	Library/ID	Ref#	CAS#	Qual
			Decanal	29128	000112-31-2	97
			Decanal	29131	000112-31-2	91
20	9.450	1.48	D:\DATABASE\NIST14.L			
			Benzene, 2-methoxy-4-methyl-1-(1-methylpropyl)-	34989	001076-56-8	96
			Benzene, 2-methoxy-4-methyl-1-(1-methylpropyl)-	34993	001076-56-8	95
			Benzene, 2-methoxy-4-methyl-1-(1-methylpropyl)-	34994	001076-56-8	95
21	9.971	0.49	D:\DATABASE\NIST14.L			
			1-Decanol	30629	000112-30-1	91
			1-Decanol	30614	000112-30-1	91
			5-Dodecene, (E)-	38284	007206-16-8	91
22	10.093	0.17	D:\DATABASE\NIST14.L			
			1-Cyclohexene-1-carboxaldehyde, 4-(1-methylethyl)-	24589	002111-75-3	96
			1-Cyclohexene-1-carboxaldehyde, 4-(1-methylethyl)-	24585	002111-75-3	94
			1-Cyclohexene-1-carboxaldehyde, 4-(1-methylethyl)-	24588	002111-75-3	93
23	10.330	0.75	D:\DATABASE\NIST14.L			
			Thymol	24339	000089-83-8	94
			Phenol, 2-methyl-5-(1-methylethyl)	24486	000499-75-2	93
			3-Methyl-4-isopropylphenol	24408	003228-02-2	90
24	10.483	0.20	D:\DATABASE\NIST14.L			
			Phenol, 2-methyl-5-(1-methylethyl)	24480	000499-75-2	42
			Phenol, 2,3,5,6-tetramethyl-	24432	000527-35-5	42
			Phenol, 2,3,5,6-tetramethyl-	24429	000527-35-5	42
25	10.645	0.24	D:\DATABASE\NIST14.L			
			2,4-Decadienal, (E,E)-	25888	025152-84-5	91
			2,4-Decadienal, (E,E)-	25877	025152-84-5	91
			2,4-Decadienal	25840	002363-88-4	90
26	10.996	0.41	D:\DATABASE\NIST14.L			
			Cyclohexene, 4-ethenyl-4-methyl-3-(1-methylethyl)-1-(1-methylethyl)-(3R-trans)-	68824	020307-84-0	99
			Cyclohexene, 4-ethenyl-4-methyl-3-(1-methylethyl)-1-(1-methylethyl)-(3R-trans)-	68823	020307-84-0	98
			Cyclohexene, 4-ethenyl-4-methyl-3-(1-methylethyl)-1-(1-methylethyl)-(3R-trans)-	68822	020307-84-0	96
27	11.305	0.42	D:\DATABASE\NIST14.L			
			n-Decanoic acid	41223	000334-48-5	98
			n-Decanoic acid	41224	000334-48-5	98
			n-Decanoic acid	41220	000334-48-5	70

## Library Search Report

Data Path : D:\MassHunter\GCMS\2\  
 Data File : 2020\_11\_23\_C Reticulata\_M.D  
 Acq On : 23 Nov 2020 17:27  
 Operator : NGR  
 Sample : Undiksa/Kimia  
 Misc : Laksmi  
 ALS Vial : 1 Sample Multiplier: 1

Search Libraries: D:\DATABASE\NIST14.L Minimum Quality: 0  
 Unknown Spectrum: Apex  
 Integration Events: ChemStation Integrator - autoint1.e

Pk#	RT	Area%	Library/ID	Ref#	CAS#	Qual
28	11.884	0.47	D:\DATABASE\NIST14.L			
			Tetradecanal	76509	000124-25-4	98
			13-Methyltetradecanal	89788	075853-51-9	98
			Heptadecanal	115508	1000376-70-0	96
29	12.297	0.40	D:\DATABASE\NIST14.L			
			1,5-Cyclodecadiene, 1,5-dimethyl-8- -(1-methylethylidene)-, (E,E)- .gamma.-Elemene	68726	015423-57-1	98
			.gamma.-Elemene	68546	029873-99-2	98
				68537	029873-99-2	98
30	12.966	0.48	D:\DATABASE\NIST14.L			
			Germacrene D	68505	023986-74-5	99
			Germacrene D	68507	023986-74-5	96
			.beta.-copaene	68520	1000374-18-9	90
31	13.810	0.81	D:\DATABASE\NIST14.L			
			Dodecanoic acid	64983	000143-07-7	99
			Dodecanoic acid	64985	000143-07-7	99
			Dodecanoic acid	64986	000143-07-7	98
32	14.274	0.31	D:\DATABASE\NIST14.L			
			Pentanoic acid, 2,2,4-trimethyl-3- carboxyisopropyl, isobutyl ester	146127	1000140-77-5	64
			2,2,4-Trimethyl-1,3-pentanediol di	146056	006846-50-0	53
			isobutyrate			
			3-Methoxyhex-1-ene	7606	108811-41-2	46
33	15.445	0.14	D:\DATABASE\NIST14.L			
			2,6,11-Dodecatrienal, 2,6-dimethyl -10-methylene-	81670	060066-88-8	95
			2,6,9,11-Dodecatetraenal, 2,6,10-t rimethyl-	81665	004955-32-2	52
			Butanoic acid, 4-oxo-4-(phenylamin o)-, methyl ester	71359	005430-83-1	45
34	16.056	0.85	D:\DATABASE\NIST14.L			
			Tetradecanoic acid	91419	000544-63-8	97
			Tetradecanoic acid	91415	000544-63-8	97
			Tetradecanoic acid	91420	000544-63-8	97
35	17.760	0.40	D:\DATABASE\NIST14.L			
			Hexadecanoic acid, methyl ester	130813	000112-39-0	99
			Hexadecanoic acid, methyl ester	130820	000112-39-0	99
			Hexadecanoic acid, methyl ester	130822	000112-39-0	98
36	18.125	4.42	D:\DATABASE\NIST14.L			
			n-Hexadecanoic acid	117419	000057-10-3	99
			n-Hexadecanoic acid	117418	000057-10-3	99
			n-Hexadecanoic acid	117417	000057-10-3	98
37	18.418	0.39	D:\DATABASE\NIST14.L			
			cis-Vaccenic acid	142073	000506-17-2	53

## Library Search Report

Data Path : D:\MassHunter\GCMS\2\  
 Data File : 2020\_11\_23\_C Reticulata\_M.D  
 Acq On : 23 Nov 2020 17:27  
 Operator : NGR  
 Sample : Undiksa/Kimia  
 Misc : Laksmi  
 ALS Vial : 1 Sample Multiplier: 1

Search Libraries: D:\DATABASE\NIST14.L Minimum Quality: 0

Unknown Spectrum: Apex  
 Integration Events: ChemStation Integrator - autoint1.e

Pk#	RT	Area%	Library/ID	Ref#	CAS#	Qual
			Phenylephrine	37699	000059-42-7	30
			Atomoxetine	116330	083015-26-3	30
38	19.075	0.26	D:\DATABASE\NIST14.L			
			Oleic Acid	142070	000112-80-1	53
			9-Octadecenoic acid (Z)-, methyl ester	155751	000112-62-9	45
			1-Methyl-4-[nitromethyl]-4-piperidinol	43235	116250-49-8	43
39	19.406	0.65	D:\DATABASE\NIST14.L			
			Methyl 10-trans,12-cis-octadecadienoate	153874	1000336-44-2	97
			n-Propyl 9,12-octadecadienoate	180756	1000336-77-8	96
			Methyl 9-cis,11-trans-octadecadienoate	153865	1000336-44-0	96
40	19.776	7.15	D:\DATABASE\NIST14.L			
			9,12-Octadecadienoic acid (Z,Z)-	140139	000060-33-3	99
			9,12-Octadecadienoic acid (Z,Z)-	140138	000060-33-3	99
			9,12-Octadecadienoic acid (Z,Z)-	140136	000060-33-3	99
41	20.372	1.30	D:\DATABASE\NIST14.L			
			3,6-Dimethyl-5-oxo-1,2,3,5-tetrahydropyrimidazole	35878	058910-42-2	35
			4,5,6,7-Tetrahydro-benzo[c]thiophene	141774	1000300-78-1	25
			ne-1-carboxylic acid (2-cyano-phenyl)-amide			
			4,5,6,7-Tetrahydro-benzo[c]thiophene	187301	1000274-81-4	20
			ne-1-carboxylic acid (2-butoxy-phenyl)-amide			
42	22.238	2.84	D:\DATABASE\NIST14.L			
			4H-1-Benzopyran-4-one, 5,6,7-trime	198899	001168-42-9	99
			thoxy-2-(4-methoxyphenyl)-			
			4H-1-Benzopyran-4-one, 5,6,7-trime	198896	001168-42-9	99
			thoxy-2-(4-methoxyphenyl)-			
			4H-1-Benzopyran-4-one, 5,6,7-trime	198897	001168-42-9	98
			thoxy-2-(4-methoxyphenyl)-			
43	22.475	5.51	D:\DATABASE\NIST14.L			
			Benzoic acid, 4,5-dimethoxy-2-(3-phenylpropionylamino)-	187146	1000304-07-8	46
			4-[2-(Methylamino)-5-oxo-4H,6H,7H-[1,3]thiazolo[4,5-b]pyridin-7-yl]benzonitrile	143479	1000388-18-8	45
			2,4,6-Trimethoxytoluene	49207	014107-97-2	45
44	23.235	0.50	D:\DATABASE\NIST14.L			
			Bis(2-ethylhexyl) phthalate	233372	000117-81-7	81
			Bis(2-ethylhexyl) phthalate	233371	000117-81-7	74
			Di-n-octyl phthalate	233363	000117-84-0	68
45	23.658	1.02	D:\DATABASE\NIST14.L			

Bahan Alam New.M Mon Nov 23 17:59:58 2020

## Library Search Report

Data Path : D:\MassHunter\GCMS\2\  
 Data File : 2020\_11\_23\_C Reticulata\_M.D  
 Acq On : 23 Nov 2020 17:27  
 Operator : NGR  
 Sample : Undiksa/Kimia  
 Misc : Laksmi  
 ALS Vial : 1 Sample Multiplier: 1

Search Libraries: D:\DATABASE\NIST14.L Minimum Quality: 0

Unknown Spectrum: Apex  
 Integration Events: ChemStation Integrator - autoint1.e

Pk#	RT	Area%	Library/ID	Ref#	CAS#	Qual
			2,3-Di(2,2-dimethylethyl)thiophene -1,1-dioxide	90972	128788-12-5	25
			Methyl 2-oxo-5,6,7,8-tetrahydro-1H -quinoline-3-carboxylate	71367	125031-45-0	25
			2-((4aS,8R,8aR)-4a,8-Dimethyl-3,4, 4a,5,6,7,8,8a-octahydronaphthalen- 2-yl)propan-2-ol	85830	194607-96-0	18
46	23.961	3.63	D:\DATABASE\NIST14.L			
			1,19-Eicosadiene	138505	014811-95-1	97
			Pentadecanal-	89765	002765-11-9	96
			Oxirane, hexadecyl-	128814	007390-81-0	96
47	24.323	2.09	D:\DATABASE\NIST14.L			
			Benzaldehyde, 2-nitro-, diaminomet hyldenhydrazone	71767	102632-31-5	38
			26,27-Dinorergosta-5,23-dien-3-ol,	221103	035882-88-3	25
			(3.beta.)-			
			Morphinan-6-one, 4,5-epoxy-2-hydro xy-, (5.alpha.)-	131623	079700-24-6	25
48	24.604	1.67	D:\DATABASE\NIST14.L			
			2-Propenamide, N-(1-methylethyl)-N ,3-diphenyl-	125725	055044-37-6	38
			2,4,5-Trichlorophenyl cinnamate	183664	1000242-39-6	38
			1-Penten-3-one, 4,4-dimethyl-1-phe nyl-	54552	000538-44-3	27
49	25.002	1.80	D:\DATABASE\NIST14.L			
			Eicosane	142238	000112-95-8	96
			Nonahexacontanoic acid	276185	040710-32-5	90
			Eicosane	142241	000112-95-8	90
50	25.393	5.70	D:\DATABASE\NIST14.L			
			Chola-5,22-dien-3-ol, (3.beta.,22Z	199586	057597-14-5	50
			)-			
			Chola-5,22-dien-3-ol, (3.beta.,22E	199585	057597-08-7	32
			)-			
			Kauren-18-ol, acetate, (4.beta.)-	188539	072150-74-4	27
51	25.754	2.86	D:\DATABASE\NIST14.L			
			Docosane	169409	000629-97-0	95
			Eicosane	142241	000112-95-8	92
			2-Methylhexacosane	227470	001561-02-0	90
52	26.169	2.99	D:\DATABASE\NIST14.L			
			Methyl 7-methoxycarbonylamino-3-me thoxymethyl-3-cephem-4-carboxylate 1,1-dioxide	203529	097609-95-5	45
			Methyl 2-([(pyridin-4-ylmethyl)car bamoyl]amino)-4H,5H,6H-cyclopenta[ b]thiophene-3-carboxylate	188865	1000389-20-4	38
			benzoic acid, 2-hydroxy-5-nitro-, methyl ester	62727	1000400-34-2	30

Bahan Alam New.M Mon Nov 23 17:59:58 2020

## Library Search Report

Data Path : D:\MassHunter\GCMS\2\  
 Data File : 2020\_11\_23\_C Reticulata.M.D  
 Acq On : 23 Nov 2020 17:27  
 Operator : NGR  
 Sample : Undiksa/Kimia  
 Misc : Laksmi  
 ALS Vial : 1 Sample Multiplier: 1

Search Libraries: D:\DATABASE\NIST14.L Minimum Quality: 0

Unknown Spectrum: Apex  
 Integration Events: ChemStation Integrator - autoint1.e

Pk#	RT	Area%	Library/ID	Ref#	CAS#	Qual
53	26.412	2.70	D:\DATABASE\NIST14.L			
			2,5-Dimethoxy-4-nitro-phenethylamine	88909	1000335-02-1	44
			1-Ethanone, 1-[4-amino-2-(2-propenylamino)-5-thiazolyl]-2C-N	62661	1000338-04-2	38
				88900	261789-00-8	25
54	26.605	1.07	D:\DATABASE\NIST14.L			
			Tricosane	182655	000638-67-5	97
			Eicosane	142238	000112-95-8	96
			Eicosane	142241	000112-95-8	91
55	26.875	0.37	D:\DATABASE\NIST14.L			
			Chola-5,22-dien-3-ol, (3.beta.,22Z)-	199586	057597-14-5	48
			Sesquirosefuran	81634	039007-93-7	46
			n-Propyl 11-octadecenoate	182559	1000336-71-7	38

**LAMPIRAN 15.** Komponen dan Kandungan Kimia Minyak Atsiri Kulit Jeruk  
Keprok Metode Distilasi Uap Air

Library Search Report

Data Path :	D:\MassHunter\GCMS\2\			
Data File :	2020_11_23_C Reticulata.D			
Acq On :	23 Nov 2020 13:43			
Operator :	NGR			
Sample :	Undiksa/Kimia			
Misc :	Laksmi			
ALS Vial :	1 Sample Multiplier: 1			
Search Libraries:	D:\DATABASE\NIST14.L		Minimum Quality:	0
Unknown Spectrum:	Apex			
Integration Events:	ChemStation Integrator - autoint1.e			
Pk#	RT	Area%	Library/ID	Ref#
				CAS# Qual
1	4.242	1.46	D:\DATABASE\NIST14.L	
			Bicyclo[3.1.0]hex-2-ene, 2-methyl-	16271 002867-05-2 97
			5-(1-methylethyl)-	
			Bicyclo[3.1.0]hex-2-ene, 4-methyl-	16269 028634-89-1 94
			1-(1-methylethyl)-	
			Bicyclo[3.1.0]hex-2-ene, 2-methyl-	16277 002867-05-2 91
			5-(1-methylethyl)-	
2	4.381	3.93	D:\DATABASE\NIST14.L	
			.alpha.-Pinene	16068 000080-56-8 83
			(1S)-2,6,6-Trimethylbicyclo[3.1.1]	16223 007785-26-4 80
			hept-2-ene	
			(1R)-2,6,6-Trimethylbicyclo[3.1.1]	16224 007785-70-8 80
			hept-2-ene	
3	4.652	0.21	D:\DATABASE\NIST14.L	
			Camphene	16039 000079-92-5 97
			Camphene	16029 000079-92-5 97
			Bicyclo[2.2.1]heptane, 2,2-dimethyl	16285 005794-04-7 96
			1-3-methylene-, (1S)-	
4	5.073	7.13	D:\DATABASE\NIST14.L	
			.gamma.-Terpinene	16078 000099-85-4 93
			Bicyclo[3.1.0]hexane, 4-methylene-	16270 003387-41-5 89
			1-(1-methylethyl)-	
			.gamma.-Terpinene	16074 000099-85-4 81
5	5.348	5.78	D:\DATABASE\NIST14.L	
			3-Carene	16028 013466-78-9 60
			(+)-3-Carene	16050 000498-15-7 60
			3-Carene	16036 013466-78-9 60
6	5.551	2.30	D:\DATABASE\NIST14.L	
			Octanal	12689 000124-13-0 97
			Octanal	12692 000124-13-0 91
			Octanal	12691 000124-13-0 91
7	5.860	1.95	D:\DATABASE\NIST14.L	
			1,3-Cyclohexadiene, 1-methyl-4-(1-	16247 000099-86-5 97
			methylethyl)-	
			Cyclohexene, 1-methyl-4-(1-methylethylidene)-	16238 000586-62-9 96
			Cyclohexene, 1-methyl-4-(1-methylethylidene)-	16237 000586-62-9 95
8	6.201	26.16	D:\DATABASE\NIST14.L	
			D-Limonene	16046 005989-27-5 95
			D-Limonene	16045 005989-27-5 93
			D-Limonene	16044 005989-27-5 86
9	6.394	1.41	D:\DATABASE\NIST14.L	
			1,3,6-Octatriene, 3,7-dimethyl-, (Z)-	16175 003338-55-4 98
			.beta.-Ocimene	16062 013877-91-3 98

## Library Search Report

Data Path : D:\MassHunter\GCMS\2\  
 Data File : 2020\_11\_23\_C Reticulata.D  
 Acq On : 23 Nov 2020 13:43  
 Operator : NGR  
 Sample : Undiksa/Kimia  
 Misc : Laksmi  
 ALS Vial : 1 Sample Multiplier: 1

Search Libraries: D:\DATABASE\NIST14.L Minimum Quality: 0

Unknown Spectrum: Apex  
 Integration Events: ChemStation Integrator - autoint1.e

Pk#	RT	Area%	Library/ID	Ref#	CAS#	Qual
			1,3,7-Octatriene, 3,7-dimethyl-	16133	000502-99-8	97
10	6.610	5.54	D:\DATABASE\NIST14.L .gamma.-Terpinene 3-Carene .gamma.-Terpinene	16077 16028 16078	000099-85-4 013466-78-9 000099-85-4	95 94 93
11	6.754	1.67	D:\DATABASE\NIST14.L 1-Octanol 1-Octanol Formic acid, octyl ester	13944 13945 31262	000111-87-5 000111-87-5 000112-32-3	91 91 90
12	7.108	2.46	D:\DATABASE\NIST14.L Cyclohexene, 1-methyl-4-(1-methyle thyldene)- Cyclohexene, 3-methyl-6-(1-methyle thyldene)- (+)-4-Carene	16238 16231 16052	000586-62-9 000586-63-0 029050-33-7	97 96 96
13	7.285	4.60	D:\DATABASE\NIST14.L Linalool Linalool Linalool	27447 27452 27451	000078-70-6 000078-70-6 000078-70-6	96 86 86
14	7.674	0.33	D:\DATABASE\NIST14.L 2-Cyclohexen-1-ol, 1-methyl-4-(1-m ethylethyl)-, trans- 2-Cyclohexen-1-ol, 1-methyl-4-(1-m ethylethyl)-, cis- 2-Cyclohexen-1-ol, 1-methyl-4-(1-m ethylethyl)-, cis-	27793 27783 27779	029803-81-4 029803-82-5 029803-82-5	91 91 62
15	7.946	1.12	D:\DATABASE\NIST14.L Limonene oxide, trans- Limonene oxide, trans- (+)-(E)-Limonene oxide	25881 25872 25879	004959-35-7 004959-35-7 006909-30-4	90 87 80
16	8.154	1.35	D:\DATABASE\NIST14.L 6-Octenal, 3,7-dimethyl-, (R)- Citronellal 1-Hexene, 3,3-dimethyl-	27601 27479 6857	002385-77-5 000106-23-0 003404-77-1	96 68 46
17	8.610	2.68	D:\DATABASE\NIST14.L Terpinen-4-ol Terpinen-4-ol 3-Cyclohexen-1-ol, 4-methyl-1-(1-m ethylethyl)-, (R)-	27498 27505 27776	000562-74-3 000562-74-3 020126-76-5	96 96 95
18	8.818	1.97	D:\DATABASE\NIST14.L L-.alpha.-Terpineol .alpha.-Terpineol L-.alpha.-Terpineol	27533 27530 27531	010482-56-1 000098-55-5 010482-56-1	90 90 90
19	8.982	3.13	D:\DATABASE\NIST14.L			

Bahan Alam New.M Mon Nov 23 14:35:40 2020

## Library Search Report

Data Path : D:\MassHunter\GCMS\2\  
 Data File : 2020\_11\_23\_C Reticulata.D  
 Acq On : 23 Nov 2020 13:43  
 Operator : NGR  
 Sample : Undiksa/Kimia  
 Misc : Laksmi  
 ALS Vial : 1 Sample Multiplier: 1

Search Libraries: D:\DATABASE\NIST14.L Minimum Quality: 0

Unknown Spectrum: Apex  
 Integration Events: ChemStation Integrator - autoint1.e

Pk#	RT	Area%	Library/ID	Ref#	CAS#	Qual
			Decanal	29133	000112-31-2	99
			Decanal	29128	000112-31-2	98
			Decanal	29131	000112-31-2	91
20	9.452	3.63	D:\DATABASE\NIST14.L			
			Benzene, 1-methoxy-4-methyl-2-(1-methylpropyl)-	34995	031574-44-4	94
			Benzene, 1-methoxy-4-methyl-2-(1-methylbutyl)-	34990	031574-44-4	91
			Benzene, 2-methoxy-1-methyl-4-(1-methylpropyl)-	34991	006379-73-3	91
21	9.736	0.19	D:\DATABASE\NIST14.L			
			2,6-Octadien-1-ol, 2,7-dimethyl-	27620	022410-74-8	83
			2,6-Octadien-1-ol, 3,7-dimethyl-, (Z)-	27683	000106-25-2	70
			Geraniol	27446	000106-24-1	64
22	9.835	0.26	D:\DATABASE\NIST14.L			
			2-Decenal, (E)-	27515	003913-81-3	80
			2-Decenal, (Z)-	27510	002497-25-8	76
			1-Undecene, 9-methyl-	38317	074630-41-4	64
23	9.973	1.27	D:\DATABASE\NIST14.L			
			Cyclopentane, pentyl-	18431	003741-00-2	86
			3-Tetradecene, (Z)-	61852	041446-67-7	80
			1-Decanol	30614	000112-30-1	76
24	10.333	1.85	D:\DATABASE\NIST14.L			
			Thymol	24339	000089-83-8	93
			Phenol, 2,3,5,6-tetramethyl-	24433	000527-35-5	87
			3-Methyl-4-isopropylphenol	24408	003228-02-2	83
25	10.652	0.84	D:\DATABASE\NIST14.L			
			2-Methoxy-4-vinylphenol	25129	007786-61-0	70
			2,4-Decadienal, (E,E)-	25877	025152-84-5	53
			Ethanone, 1-(2-hydroxy-5-methylphenyl)-	25239	001450-72-2	52
26	10.996	0.78	D:\DATABASE\NIST14.L			
			Cyclohexene, 4-ethenyl-4-methyl-3-(1-methylethenyl)-1-(1-methylethyl)-(3R-trans)-	68824	020307-84-0	99
			Cyclohexene, 4-ethenyl-4-methyl-3-(1-methylethenyl)-1-(1-methylethyl)-(3R-trans)-	68823	020307-84-0	98
			Cyclohexene, 4-ethenyl-4-methyl-3-(1-methylethenyl)-1-(1-methylethyl)-(3R-trans)-	68822	020307-84-0	98
27	11.123	0.18	D:\DATABASE\NIST14.L			
			2,6-Octadiene, 2,6-dimethyl-	17321	002792-39-4	98
			6-Octen-1-ol, 3,7-dimethyl-, propionate	76305	000141-14-0	83

Bahan Alam New.M Mon Nov 23 14:35:40 2020

## Library Search Report

Data Path : D:\MassHunter\GCMS\2\  
 Data File : 2020\_11\_23\_C Reticulata.D  
 Acq On : 23 Nov 2020 13:43  
 Operator : NGR  
 Sample : Undiksa/Kimia  
 Misc : Laksmi  
 ALS Vial : 1 Sample Multiplier: 1

Search Libraries: D:\DATABASE\NIST14.L Minimum Quality: 0

Unknown Spectrum: Apex  
 Integration Events: ChemStation Integrator - autoint1.e

Pk#	RT	Area%	Library/ID	Ref#	CAS#	Qual
			Citronellyl butyrate	89554	000141-16-2	83
28	11.299	0.71	D:\DATABASE\NIST14.L n-Decanoic acid n-Decanoic acid n-Decanoic acid	41223 41224 41220	000334-48-5 000334-48-5 000334-48-5	98 98 90
29	11.537	0.31	D:\DATABASE\NIST14.L Geranyl acetate 2,6-Octadien-1-ol, 3,7-dimethyl-, acetate Butanoic acid, 3,7-dimethyl-2,6-octadienyl ester, (E)-	61517 61587 87637	000105-87-3 016409-44-2 000106-29-6	91 91 87
30	11.756	0.66	D:\DATABASE\NIST14.L Cyclohexane, 1-ethenyl-1-methyl-2, 4-bis(1-methylethenyl)-, [1S-(1.alpha.,2.beta.,4.beta.)]- Cyclohexane, 1-ethenyl-1-methyl-2, 4-bis(1-methylethenyl)-, (1.alpha.,2.beta.,4.beta.)- Cyclohexane, 1-ethenyl-1-methyl-2, 4-bis(1-methylethenyl)-	68845 68831 68686	000515-13-9 033880-83-0 110823-68-2	93 64 60
31	11.886	0.89	D:\DATABASE\NIST14.L Tridecanal Octadecanal Tridecanal	63513 128803 63515	010486-19-8 000638-66-4 010486-19-8	91 91 87
32	12.297	1.86	D:\DATABASE\NIST14.L .gamma.-Elemene .gamma.-Elemene 1,5-Cyclodecadiene, 1,5-dimethyl-8-(1-methylethylidene)-, (E,E)-	68537 68546 68726	029873-99-2 029873-99-2 015423-57-1	97 97 97
33	12.965	0.94	D:\DATABASE\NIST14.L Germacrene D Germacrene D (S,1Z,6Z)-8-Isopropyl-1-methyl-5-methylenecyclodeca-1,6-diene	68507 68505 68715	023986-74-5 023986-74-5 317819-80-0	99 98 93
34	13.171	0.52	D:\DATABASE\NIST14.L .alpha.-Farnesene Humulene .alpha.-Farnesene	68560 68479 68574	000502-61-4 006753-98-6 000502-61-4	89 74 68
35	13.918	0.60	D:\DATABASE\NIST14.L 1,5-Cyclodecadiene, 1,5-dimethyl-8-(1-methylethylidene)-, (E,E)- 1H-Cyclopropa[a]naphthalene, 1a,2,3,3a,4,5,6,7b-octahydro-1,1,3a,7-tetramethyl-, [1aR-(1a.alpha.,3a.alpha.,7b.alpha.)]- Alloaromadendrene	68726 68920 68577	015423-57-1 000489-29-2 025246-27-9	95 91 83

## Library Search Report

Data Path : D:\MassHunter\GCMS\2\  
 Data File : 2020\_11\_23\_C Reticulata.D  
 Acq On : 23 Nov 2020 13:43  
 Operator : NGR  
 Sample : Undiksa/Kimia  
 Misc : Laksmi  
 ALS Vial : 1 Sample Multiplier: 1

Search Libraries: D:\DATABASE\NIST14.L Minimum Quality: 6

Unknown Spectrum: Apex  
 Integration Events: ChemStation Integrator - autoint1.e

Pk#	RT	Area%	Library/ID	Ref#	CAS#	Qual
36	15.011	0.77	D:\DATABASE\NIST14.L (Z)-Ethyl 3-(4-methoxyphenyl)acryl ate	70273	051507-22-3	99
			Ethyl p-methoxycinnamate	70250	001929-30-2	98
			Ethyl p-methoxycinnamate	70251	024393-56-4	97
37	15.200	0.17	D:\DATABASE\NIST14.L 2-Propenamide	597	000079-06-1	27
			Hydroxylamine, O-decyl-	42310	029812-79-1	18
			1,3-Dimethylcyclopentanol	7694	019550-46-0	18
38	15.446	0.21	D:\DATABASE\NIST14.L 2,6,11-Dodecatrienal, 2,6-dimethyl -10-methylene-	81670	060066-88-8	98
			2,6,9,11-Dodecatetraenal, 2,6,10-t rimethyl-	81665	004955-32-2	72
			trans-.beta.-Ocimene	16098	003779-61-1	53
39	16.091	2.07	D:\DATABASE\NIST14.L Ethyl p-methoxycinnamate	70251	024393-56-4	99
			(Z)-Ethyl 3-(4-methoxyphenyl)acryl ate	70273	051507-22-3	99
			Ethyl p-methoxycinnamate	70250	001929-30-2	99
40	16.241	0.23	D:\DATABASE\NIST14.L Benzyl Benzoate	76379	000120-51-4	98
			Benzyl Benzoate	76382	000120-51-4	93
			Benzyl Benzoate	76381	000120-51-4	92
41	18.118	2.42	D:\DATABASE\NIST14.L n-Hexadecanoic acid	117419	000057-10-3	99
			n-Hexadecanoic acid	117418	000057-10-3	99
			n-Hexadecanoic acid	117417	000057-10-3	98
42	18.436	0.30	D:\DATABASE\NIST14.L Phenylephrine	37699	000059-42-7	43
			Benzaldehyde, 2-nitro-, diaminomet hyldienhydrazone	71767	102632-31-5	43
			Alanyl-.beta.-alanine, TMS derivat ive	95327	1000333-69-0	43
43	19.785	1.18	D:\DATABASE\NIST14.L 9-Octadecenoic acid, (E)-	142088	000112-79-8	94
			9,17-Octadecadien, (Z)-	125003	056554-35-9	92
			Z,E-3,13-Octadecadien-1-ol	126841	1000131-10-4	91
44	21.998	0.12	D:\DATABASE\NIST14.L Metaraminol	37694	000054-49-9	38
			4-isoquinolinecarboxylic acid, 1,2 -dihydro-1-oxo-2-phenyl-	125568	1000401-63-3	38
			2-Amino-1-(o-methoxyphenyl)propane	35701	015402-84-3	35
45	22.786	0.07	D:\DATABASE\NIST14.L			

Bahan Alam New.M Mon Nov 23 14:35:40 2020

## Library Search Report

Data Path : D:\MassHunter\GCMS\2\  
 Data File : 2020\_11\_23\_C Reticulata.D  
 Acq On : 23 Nov 2020 13:43  
 Operator : NGR  
 Sample : Undiksa/Kimia  
 Misc : Laksmi  
 ALS Vial : 1 Sample Multiplier: 1

Search Libraries: D:\DATABASE\NIST14.L Minimum Quality: 0

Unknown Spectrum: Apex  
 Integration Events: ChemStation Integrator - autoint1.e

Pk#	RT	Area%	Library/ID	Ref#	CAS#	Qual
			1-Decanol, 2-octyl-	130951	045235-48-1	35
			Eicosyl isopropyl ether	197682	1000406-34-3	30
			Tetrapentacontane, 1,54-dibromo-	276082	1000156-09-4	30
46	23.236	0.18	D:\DATABASE\NIST14.L			
			2,4,7,14-Tetramethyl-4-vinyl-tricyclo[5.4.3.0(1,8)]tetradecan-6-ol	150240	1000193-31-2	44
			Spiro[azetidin-2-one-4,2'-tricyclo[3.3.1,1(3,7)]decane]	56913	059592-02-8	25
			Methyl 2-oxo-5,6,7,8-tetrahydro-1H-quinoline-3-carboxylate	71367	125031-45-0	25
47	24.303	0.18	D:\DATABASE\NIST14.L			
			Eicosane	142241	000112-95-8	40
			1H-Indole, 5-methyl-2-phenyl-	71661	013228-36-9	38
			17,21-Dimethylheptatriacontane	270782	067979-79-7	30
48	25.007	0.75	D:\DATABASE\NIST14.L			
			Eicosane	142241	000112-95-8	59
			Eicosane	142238	000112-95-8	59
			Pentadecane, 2-methyl-	89859	001560-93-6	45
49	25.281	0.19	D:\DATABASE\NIST14.L			
			Pyridine-3-carboxamide, oxime, N-(2-trifluoromethylphenyl)-	140515	288246-53-7	92
			Trichothec-9-en-4-ol, 7,8:12,13-di-epoxy-, 2-butenoate, [4. $\beta$ -(Z),7. $\beta$ ,8. $\beta$ -]-	190064	021284-11-7	38
			Benzinemethanol, .alpha.-[(methylamino)methyl]-	25768	006589-55-5	35
50	25.755	0.29	D:\DATABASE\NIST14.L			
			Eicosane	142241	000112-95-8	59
			Docosane, 2,21-dimethyl-	195685	077536-31-3	45
			Pentadecane, 2-methyl-	89859	001560-93-6	44
51	26.606	0.20	D:\DATABASE\NIST14.L			
			Nonahexacontanoic acid	276185	040710-32-5	38
			4-Dehydroxy-N-(4,5-methylenedioxy-2-nitrobenzylidene)tyramine	157264	1000111-66-9	35
			2-Ethylacridine	71643	055751-83-2	30

**LAMPIRAN 16.** Kromatogram Blanko.

File : D:\MassSpectra\160307\212429\_11\_23\_Mangko.ms  
Generator : MS2  
Acquired : 23 Nov 2009 10:15 using AcqMethod Bahan Alam.msp  
Instrument : GC/MSD 5977B  
Sample Name: Mangko  
Misc. Info : Klasifikasi  
Vial Number: 1

