LAMPIRAN

Lampiran 1. Perhitungan Rendemen Minyak Atsiri

- Berat kulit jeruk siam yang digunakan : 250 gram

No	Sampel (gram)	Berat Minyak Atsiri (gram)		Rendemen (%)	
		Maserasi	Distilasi Uap Air	Maserasi	Distilasi Uap Air
1	250	5,414	2,196	2,166	0,878
2	250	5,598	2,766	2,239	1,106
3	250	5,408	2,653	2,163	1,061
Rata-rata	250	5,473	2,538	2,189	1,015

1. Nilai rendemen minyak atsiri kulit jeruk siam (*Citrus nobilis*) metode maserasi
   - Rendemen ke-1

     $$= \frac{\text{(berat minyak atsiri yang didapat)}}{\text{(berat bahan yang digunakan)}} \times 100\%$$

     $$= \frac{5{,}414 \text{ gr}}{250 \text{ gr}} \times 100\%$$

     $$= 2{,}166\%$$
   - Rendemen ke-2

     $$= \frac{\text{(berat minyak atsiri yang didapat)}}{\text{(berat bahan yang digunakan)}} \times 100\%$$

     $$= \frac{5{,}598 \text{ gr}}{250 \text{ gr}} \times 100\%$$

     $$= 2{,}239\%$$
   - Rendemen ke-3

     $$= \frac{\text{(berat minyak atsiri yang didapat)}}{\text{(berat bahan yang digunakan)}} \times 100\%$$

     $$= \frac{5{,}408 \text{ gr}}{250 \text{ gr}} \times 100\%$$

     $$= 2{,}163\%$$

2. Nilai rendemen minyak atsiri kulit jeruk siam (*Citrus nobilis*) metode distilasi uap air
   - Rendemen ke-1

     $$= \frac{\text{(berat minyak atsiri yang didapat)}}{\text{(berat bahan yang digunakan)}} \times 100\%$$

     $$= \frac{2{,}196 \text{ gr}}{250 \text{ gr}} \times 100\%$$

     $$= 0{,}878\%$$
   - Rendemen ke-2

     $$= \frac{\text{(berat minyak atsiri yang didapat)}}{\text{(berat bahan yang digunakan)}} \times 100\%$$

     $$= \frac{2{,}766 \text{ gr}}{250 \text{ gr}} \times 100\%$$

     $$= 1{,}106\%$$
   - Rendemen ke-3

     $$= \frac{\text{(berat minyak atsiri yang didapat)}}{\text{(berat bahan yang digunakan)}} \times 100\%$$

     $$= \frac{2{,}653 \text{ gr}}{250 \text{ gr}} \times 100\%$$

     $$= 1{,}061\%$$
3. Perhitungan berat jenis minyak atsiri metode Maserasi
   - Berat jenis air pada suhu 25ºC = 0.9971 g/mL
   - Berat piknometer kosong = 12.1400 gram
   - Berat piknometer + air = 26.0750 gram
   - Berat piknometer + minyak atsiri = 16.421 gram
   - Minyak atsiri = (berat piknometer + minyak) – (berat piknometer kosong)

     = 28.561 gram – 12.1400 gram

     = 16.421 gram
   - Massa air = (berat piknometer + air) – (berat piknometer kosong)

     = 26,0749 gram – 12,400 gram

     = 13,9349 gram

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

$$= \frac{13.9349}{0.9971} = 13{,}98 \text{ mL}$$

- Berat jenis minyak atsiri $= \frac{massa\ (gram)}{Volume\ (mL)}$

$$= \frac{16.421 \text{ gram}}{13.98 \text{ mL}} = 1{,}174 \text{ g/mL}$$

4. Perhitungan berat jenis minyak atsiri metode distilasi uap air
   - Berat jenis air pada suhu 25ºC = 0.9971 g/mL
   - Berat piknometer kosong = 7.0178 gram
   - Berat piknometer + air = 16.9898 gram
   - Berat piknometer + minyak atsiri = 7.158 gram
   - Minyak atsiri = (berat piknometer + minyak) – (berat piknometer kosong)

     = 14.1758 gram – 7.0178 gram

     = 7.158 gram
   - Massa air = (berat piknometer + air) – (berat piknometer kosong)

     = 16.9898 gram – 7.0178 gram

     = 9.972 gram
   - Volume air $= \frac{massa\ (gram)}{berat\ jenis\ \frac{gr}{mL}}$

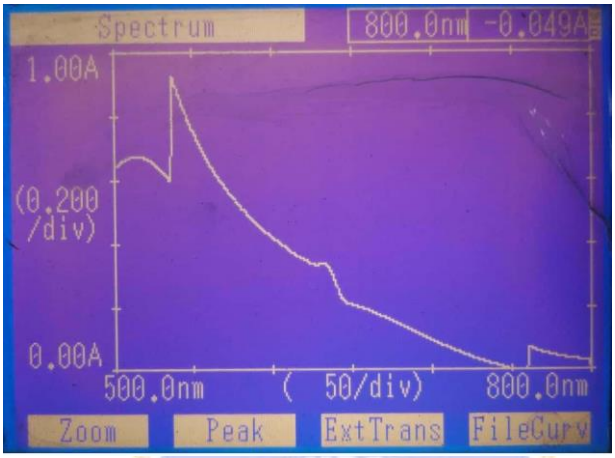
$$= \frac{9.972}{0.9971} = 10{,}001 \text{ mL}$$

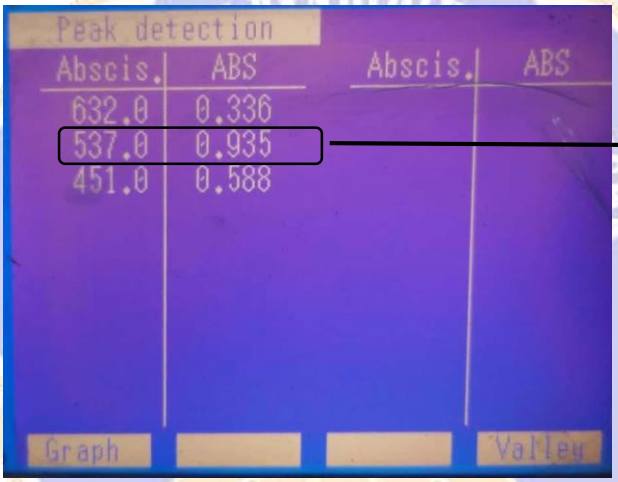
   - Berat jenis minyak atsiri $= \frac{massa\ (gram)}{Volume\ (mL)}$

$$= \frac{7.158 \text{ gram}}{10.001 \text{ mL}} = 0{,}715 \text{ g/mL}$$

Lampiran 2. Penentuan Panjang Gelombang (**λ**) Maksimum

Spektra DPPH 0.1 mM





Panjang gelombang maksimum

Lampiran 3. Data Absorbansi Uji Aktivitas Antioksidan

1. Pembanding vitamin C

Absorbansi pada Pengulangan ke-			Absrobansi Rata-rata
I	II	III	
0.24	0.24	0.24	0.24

Konsentrasi (ppm)	Absorbansi pada Pengulangan ke-			Absrobansi Rata-rata	% Inhibisi
	I	II	III		
1	0.122	0.122	0.122	0.122	49.16
2	0.107	0.107	0.108	0.107	55.41
4	0.084	0.083	0.083	0.083	65.41
8	0.027	0.027	0.027	0.027	88.75
10	0.014	0.014	0.015	0.014	94.16

2. Minyak atsiri kulit jeruk siam (*Citrus nobilis*) metode maserasi

Absorbansi pada Pengulangan ke-			Absrobansi Rata-rata
I	II	III	
0.758	0.758	0.758	0.758

Konsentrasi (ppm)	Absorbansi pada Pengulangan ke-			Absrobansi Rata-rata	% Inhibisi
	I	II	III		
5	0.708	0.709	0.708	0.708	6.60
25	0.672	0.672	0.673	0.672	11.35
50	0.636	0.635	0.638	0.636	16.09
80	0.545	0.545	0.545	0.545	28.10
125	0.372	0.371	0.371	0.371	51.06

3. Minyak atsiri kulit jeruk siam (*Citrus nobilis*) metode distilasi uap air

Absorbansi Blanko pada Pengulangan ke-			Absrobansi Rata-rata
I	II	III	
1.07	1.072	1.068	1.07

Konsentrasi (ppm)	Absorbansi pada Pengulangan ke-			Absrobansi Rata-rata	% Inhibisi
	I	II	III		
5	0.705	0.705	0.705	0.705	34.11
25	0.689	0.69	0.689	0.689	35.61
50	0.601	0.601	0.602	0.601	43.83
80	0.507	0.508	0.507	0.507	52.62
125	0.352	0.352	0.352	0.352	67.10

Lampiran 4. Perhitungan Untuk Uji Antioksidan

1. Pembuatan larutan DPPH 40 ppm (0.1 mM)

   DPPH ditimbang sebanyak :

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

   $0.1\ \text{mM} = \frac{\text{x}}{394.32} \times \frac{1000}{25}$

   x = 1 mg

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

2. Pembuatan larutan induk vitamin C

   $\frac{1\ mg}{0.01\ L} = \frac{1000\ \mu g}{10\ mL} = 100\ \frac{\mu g}{mL} = 100$ ppm

3. Pembuatan larutan induk minyak atsiri kulit jeruk siam (*Citrus nobilis*) metode distilasi uap air dan maserasi

   $\frac{10\ mg}{0.01\ L} = \frac{10.000\ \mu g}{10\ mL} = 1000\ \frac{\mu g}{mL} = 1000$ ppm

4. Perhitungan larutan pembanding vitamin C (1, 2, 4, 8 dan 10 ppm)

   - Konsentrasi 1 ppm

     $M_1 \times V_1 = M_2 \times V_2$

100m × V_1 = 1 ppm × 5 mL

V_1 = 0.05 mL atau 50 μL

Jadi. sebanyak 50 μL dipipet dari larutan induk 1000 ppm

- Konsentrasi 2 ppm

  $M_1 \times V_1 = M_2 \times V_2$

  100 ppm × V_1 = 2 ppm × 5 mL

  V_1 = 0.1 mL atau 100 μL

  Jadi. sebanyak 100 μL dipipet dari larutan induk 1000 ppm

- Konsentrasi 4 ppm

  $M_1 \times V_1 = M_2 \times V_2$

  100 ppm × V_1 = 4 ppm × 5 mL

  V_1 = 0.2 mL atau 200 μL

  Jadi. sebanyak 200 μL dipipet dari larutan induk 1000 ppm

- Konsentrasi 8 ppm

  $M_1 \times V_1 = M_2 \times V_2$

  100 ppm × V_1 = 8 ppm × 5 mL

  V_1 = 0.4 mL atau 400 μL

  Jadi. sebanyak 400 μL dipipet dari larutan induk 1000 ppm

- Konsentrasi 10 ppm

  $M_1 \times V_1 = M_2 \times V_2$

  100 ppm × V_1 = 10 ppm × 5 mL

  V_1 = 0.5 mL atau 500 μL

  Jadi. sebanyak 500 μL dipipet dari larutan induk 1000 ppm

5. Perhitungan larutan untuk uji minyak atsiri kulit jeruk siam (*Citrus nobilis*) metode maserasi dan distilasi uap air (5, 25, 50, 80 dan 125 ppm)

   - Konsentrasi 5 ppm

     $M_1 \times V_1 = M_2 \times V_2$

     1000 ppm × V_1 = 5 ppm × 5 mL

     V_1 = 0.025 mL atau 25 μL

     Jadi. sebanyak 25 μL dipipet dari larutan induk 1000 ppm

- Konsentrasi 25 ppm

  $M_1 \times V_1 = M_2 \times V_2$

  1000 ppm × V_1 = 25 ppm × 5 mL

  V_1 = 0.125 mL atau 125 µL

  Jadi. sebanyak 125 µL dipipet dari larutan induk 1000 ppm

- Konsentrasi 50 ppm

  $M_1 \times V_1 = M_2 \times V_2$

  1000 ppm × V_1 = 50 ppm × 5 mL

  V_1 = 0.25 mL atau 250 µL

  Jadi. sebanyak 250 µL dipipet dari larutan induk 1000 ppm

- Konsentrasi 80 ppm

  $M_1 \times V_1 = M_2 \times V_2$

  1000 ppm × V_1 = 80 ppm × 5 mL

  V_1 = 0.40 mL atau 400 µL

  Jadi. sebanyak 400 µL dipipet dari larutan induk 1000 ppm

- Konsentrasi 125 ppm

  $M_1 \times V_1 = M_2 \times V_2$

  1000 ppm × V_1 = 125 ppm × 5 mL

  V_1 = 0.625 mL atau 625 µL

  Jadi. sebanyak 625 µL dipipet dari larutan induk 1000 ppm

Lampiran 5. Perhitungan % inhibisi

1. Perhitungan nilai % inhibisi vitamin C

   - Konsentrasi 1 ppm

     $\%\ \text{inhibisi} = \frac{A_{Blanko} - A_{Sampel}}{A_{Blanko}} \times 100\%$

     $\%\ \text{inhibisi} = \frac{0.240 - 0.122}{0.240} \times 100\%$

     % inhibisi = 49,16%

   - Konsentrasi 2 ppm

     $\%\ \text{inhibisi} = \frac{A_{Blanko} - A_{Sampel}}{A_{Blanko}} \times 100\%$

     $\%\ \text{inhibisi} = \frac{0.240 - 0.107}{0.240} \times 100\%$

% inhibisi = 55,41%

- Konsentrasi 4 ppm

$$\% \text{ inhibisi} = \frac{A_{Blanko} - A_{Sampel}}{A_{Blanko}} \times 100\%$$

$$\% \text{ inhibisi} = \frac{0.240 - 0.083}{0.240} \times 100\%$$

% inhibisi = 65,41%

- Konsentrasi 8 ppm

$$\% \text{ inhibisi} = \frac{A_{Blanko} - A_{Sampel}}{A_{Blanko}} \times 100\%$$

$$\% \text{ inhibisi} = \frac{0.240 - 0.027}{0.240} \times 100\%$$

% inhibisi = 88.75%

- Konsentrasi 10 ppm

$$\% \text{ inhibisi} = \frac{A_{Blanko} - A_{Sampel}}{A_{Blanko}} \times 100\%$$

$$\% \text{ inhibisi} = \frac{0.240 - 0.014}{0.240} \times 100\%$$

% inhibisi = 94,16%

2. Perhitungan % inhibisi minyak atsiri kulit jeruk siam (*Citrus nobilis*) metode maserasi

- Konsentrasi 5 ppm

$$\% \text{ inhibisi} = \frac{A_{Blanko} - A_{Sampel}}{A_{Blanko}} \times 100\%$$

$$\% \text{ inhibisi} = \frac{0.758 - 0.708}{0.758} \times 100\%$$

% inhibisi = 6,60%

- Konsentrasi 25 ppm

$$\% \text{ inhibisi} = \frac{A_{Blanko} - A_{Sampel}}{A_{Blanko}} \times 100\%$$

$$\% \text{ inhibisi} = \frac{0.758 - 0.672}{0.758} \times 100\%$$

% inhibisi = 11,35%

- Konsentrasi 50 ppm

$$\% \text{ inhibisi} = \frac{A_{Blanko} - A_{Sampel}}{A_{Blanko}} \times 100\%$$

$$\% \text{ inhibisi} = \frac{0.758 - 0.636}{0.758} \times 100\%$$

% inhibisi = 16,09%

- Konsentrasi 80 ppm

$$\% \text{ inhibisi} = \frac{A_{Blanko} - A_{Sampel}}{A_{Blanko}} \times 100\%$$

$$\% \text{ inhibisi} = \frac{0.758 - 0.545}{0.758} \times 100\%$$

$$\% \text{ inhibisi} = 28{,}10\%$$

- Konsentrasi 125 ppm

$$\% \text{ inhibisi} = \frac{A_{Blanko} - A_{Sampel}}{A_{Blanko}} \times 100\%$$

$$\% \text{ inhibisi} = \frac{0.758 - 0.371}{0.758} \times 100\%$$

$$\% \text{ inhibisi} = 51{,}06\%$$

3. Perhitungan % inhibisi minyak atsiri kulit jeruk siam (*Citrus nobilis*) metode distilasi uap air

- Konsentrasi 5 ppm

$$\% \text{ inhibisi} = \frac{A_{Blanko} - A_{Sampel}}{A_{Blanko}} \times 100\%$$

$$\% \text{ inhibisi} = \frac{1.070 - 0.705}{1.070} \times 100\%$$

$$\% \text{ inhibisi} = 34{,}11\%$$

- Konsentrasi 25 ppm

$$\% \text{ inhibisi} = \frac{A_{Blanko} - A_{Sampel}}{A_{Blanko}} \times 100\%$$

$$\% \text{ inhibisi} = \frac{1.070 - 0.689}{1.070} \times 100\%$$

$$\% \text{ inhibisi} = 35{,}61\%$$

- Konsentrasi 50 ppm

$$\% \text{ inhibisi} = \frac{A_{Blanko} - A_{Sampel}}{A_{Blanko}} \times 100\%$$

$$\% \text{ inhibisi} = \frac{1.070 - 0.601}{1.070} \times 100\%$$

$$\% \text{ inhibisi} = 43{,}83\%$$

- Konsentrasi 80 ppm

$$\% \text{ inhibisi} = \frac{A_{Blanko} - A_{Sampel}}{A_{Blanko}} \times 100\%$$

$$\% \text{ inhibisi} = \frac{1.070 - 0.507}{1.070} \times 100\%$$

$$\% \text{ inhibisi} = 52{,}62\%$$

- Konsentrasi 125 ppm

$$\% \text{ inhibisi} = \frac{A_{Blanko} - A_{Sampel}}{A_{Blanko}} \times 100\%$$

$$\% \text{ inhibisi} = \frac{1.070-0.507}{1.070} \times 100\%$$

% inhibisi = 67,10%

Lampiran 6. Perhitungan IC_{50}

Perhitungan IC_{50} diawali dengan membuat persamaan regresi linier menngunakan Ms. Excel 2013

sehingga mendapatkan persamaan regrensi linier. Setelah itu. ditentukannya nilai IC_{50}.

1. Perhitungan IC_{50} vitamin C

   Persamaan regrensi linier :

   y = 5.1462x + 44.847

   R^2 = 0.992

   Perhitungan nilai IC_{50} :

   y = 5.1462x + 44.847

   50 = 5.1462x + 44.847

   $x = \frac{50-44.847}{5.1462}$

   x = 1,00 ppm

2. Minyak atsiri kulit jeruk siam (*Citrus nobilis*) metode maserasi

   Persamaan regrensi linier :

   y = 0.3695x + 1.5789

   R^2 = 0.9636

   Perhitungan nilai IC_{50} :

   y = 0.3695x + 1.5789

   50 = 0.3695x + 1.5789

   $x = \frac{50-1.5789}{0.3695}$

   x = 131,045 ppm

3. Minyak atsiri kulit jeruk siam (*Citrus nobilis*) metode distilasi uap air

   Persamaan regrensi linier :

   y = 0.2859x + 30.358

   R^2 = 0.9851

Perhitungan nilai IC_{50} :

$y = 0.2859x + 30.358$

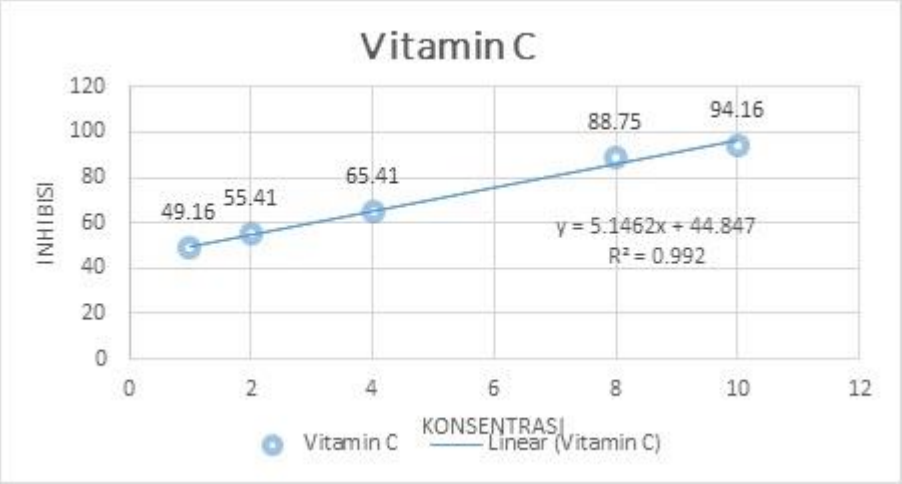
$50 = 0.2859x + 30.358$

$x = \frac{50-30.358}{0.2859}$

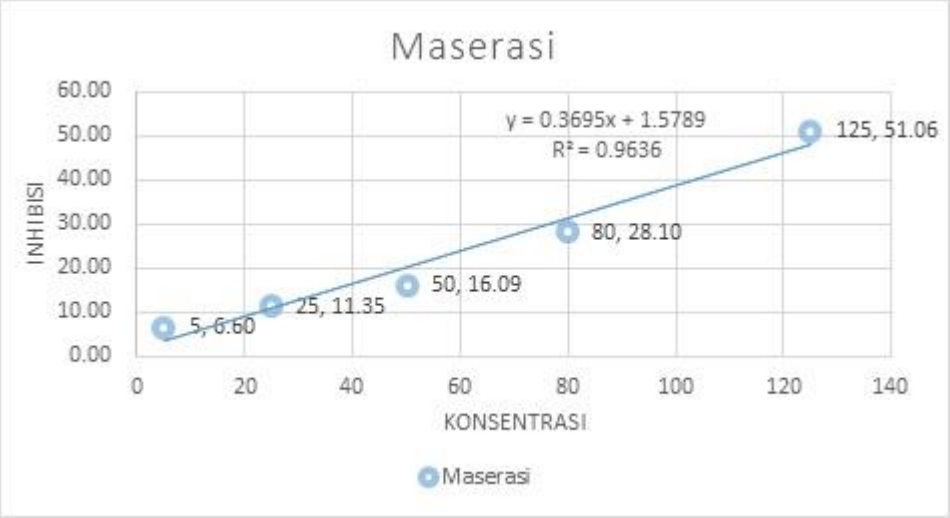
$x = 68{,}702$ ppm

Lampiran 7. Kurva Aktivitas Antioksidan

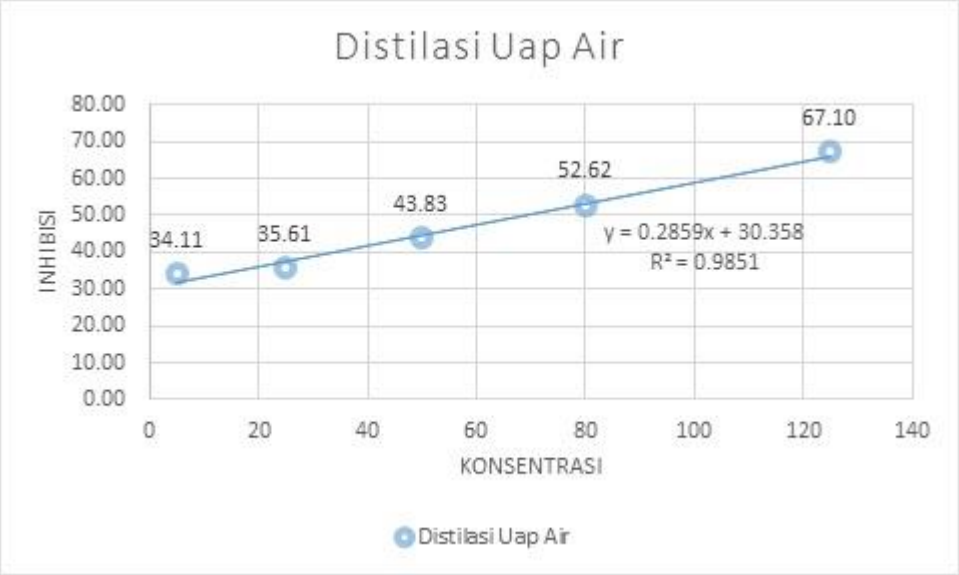
1. Kurva uji aktivitas larutan pembanding vitamin C



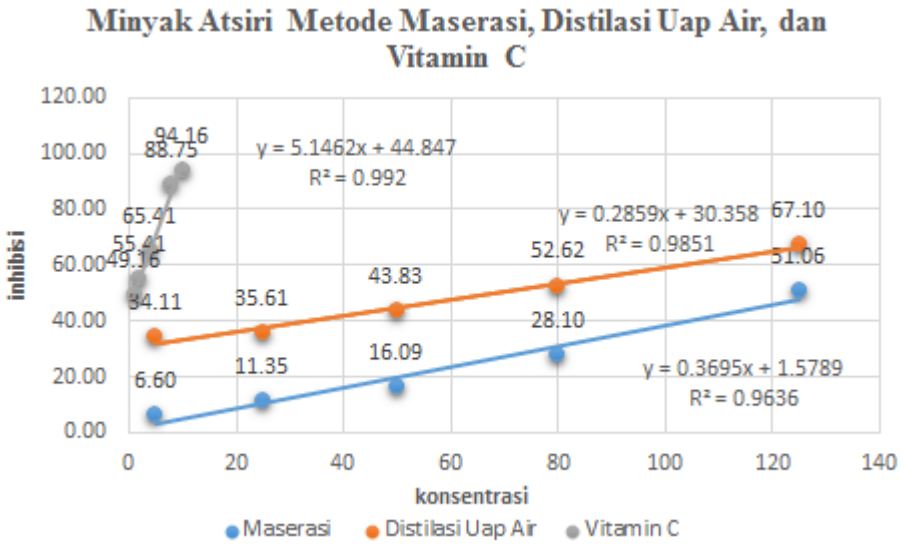
2. Kurva uji antioksidan Minyak atsiri kulit jeruk siam (*Citrus nobilis*) metode maserasi



3. Kurva uji antioksidan minyak atsiri kulit jeruk siam (*Citrus nobilis*) metode distilasi uap air



4. Kurva gabungan aktivitas biologi antara vitamin C, minyak atsiri kulit jeruk siam metode maserasi dan distilasi uap air



Lampiran 8. Zona Hambat Bakteri

1. Bakteri *Stapilococcus Aureus*

No	Metode	Konsentrasi	Sisi Vertikal			Sisi Horizontal			Diamater Zona Hambat			Rata-rata Zona Hambat
			I	II	III	I	II	III	I	II	III	
1	Distilasi Uap Air	25%	7.00	8.00	7.00	7.00	7.00	7.00	7.00	7.50	7.00	7.17
		50%	8.00	9.00	8.00	9.00	8.00	7.00	9.00	8.50	7.50	8.33
		75%	10.00	9.00	10.00	10.00	8.00	11.00	10.00	8.50	10.50	9.67
		100%	12.00	13.00	10.00	11.00	12.00	13.00	11.50	12.50	11.50	11.83
2	Maserasi	25%	6.00	6.00	7.00	7.00	7.00	7.00	6.50	6.50	7.00	6.67
		50%	8.00	9.00	9.00	8.00	8.00	7.00	8.00	8.50	8.00	8.17
		75%	10.00	9.00	8.00	8.00	9.00	9.00	9.00	9.00	8.50	8.83
		100%	11.00	10.00	10.00	10.00	9.00	11.00	10.50	9.50	10.50	10.17
3	Kontrol Negatif		6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00

2. Bakteri *Escherichia Coli*

No	Metode	Konsentrasi	Sisi Vertikal			Sisi Horizontal			Diamater Zona Hambat			Rata-rata Zona Hambat
			I	II	III	I	II	III	I	II	III	
1	Distilasi Uap Air	25%	7.00	7.00	6.00	7.00	8.00	7.00	7.00	7.50	6.50	7.00
		50%	8.00	6.00	7.00	8.00	7.00	8.00	8.00	6.50	7.50	7.33
		75%	9.00	9.00	10.00	10.00	8.00	9.00	9.50	8.50	9.50	9.17
		100%	11.00	10.00	11.00	9.00	12.00	11.00	10.00	11.00	11.00	10.67
2	Maserasi	25%	6.00	7.00	6.00	6.00	6.00	7.00	6.00	6.50	6.50	6.33
		50%	7.00	7.00	8.00	7.00	7.00	6.00	7.00	7.00	7.00	7.00
		75%	8.00	10.00	9.00	8.00	7.00	8.00	8.00	8.50	8.50	8.33
		100%	9.00	9.00	10.00	9.00	10.00	9.00	9.00	9.50	9.50	9.33
3	Kontrol Negatif		6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00	6.00

Lampiran 9. Perhitungan Uji Antibakteri

1. Pembuatan media peremajaan bakteri

   Media peremajaan bakteri dibuat sebanyak 200 mL dengan konsentrasi yang setara dengan 20 gram/1000 mL atau 2%.

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

   $$0.02 = \frac{b}{200} \times 1$$

   b = 4 gram

2. Pembuatan larutan standar kekeruhan Mc. Farland 0.5

- Pembuatan H_2SO_4 1% sebanyak 10 mL. dengan melakukan pengenceran konsentrasi H_2SO_4 100%

$M_1 \times V_1 = M_2 \times V_2$

$100\% \times V_1 = 1\% \times 10$ mL

V_1 = 0.1 mL

- Pembuatan $BaCl_2$ 1.175% sebanyak 1 mL

$$1.175\% = \frac{b}{v} \times 100\%$$

$$0.01175 = \frac{b}{200} \times 1$$

b = 0.01175 gram

Jadi. pembuatan larutan standar Mc.Farland 0.5 dibuat dengan mencampurkan sebanyak 0.05 mL $BaCl_2$ 1,175% dengan 9,95 mL H_2SO_4 1% sehingga menghasilkan larutan yang keruh.

3. Pengenceran minyak atsiri kulit jeruk siam (*Citrus nobilis*) metode maserasi dan distilasi uap air

- Konsentrasi 25%

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

$$0.25 = \frac{b}{0.05} \times 1$$

b = 0.125 gram (0.125 mL = 125 µL)

- Konsentrasi 50%

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

$$0.50 = \frac{b}{0.05} \times 1$$

b = 0.25 gram (0.25 mL = 250 µL)

- Konsentrasi 75%

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

$$0.75 = \frac{b}{0.05} \times 1$$

b = 0.375 gram (0.375 mL = 375 µL)

- Konsentrasi 100%

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

$$1 = \frac{b}{0.05} \times 1$$

b = 0.5 gram (0.5 mL = 500 µL)

Lampiran 10 . Uji Aktivitas Larvasida dengan Larva *Aedes aegypti*

1. Data kematian larva *Aedes aegypti* per 24 jam terhadap minyak atsiri kulit jeruk siam (*Citrus nobilis*) metode distilasi uap air

Jam	Konsentrasi minyak atsiri kulit jeruk siam 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	3	3	4	5	4	5
48	0	0	0	3	2	3	5	4	5	7	6	6
72	0	0	0	5	5	5	6	6	7	9	8	8

2. Data kematian larva *Aedes aegypti* per 24 jam terhadap minyak atsiri kulit jeruk siam (*Citrus nobilis*) metode maserasi

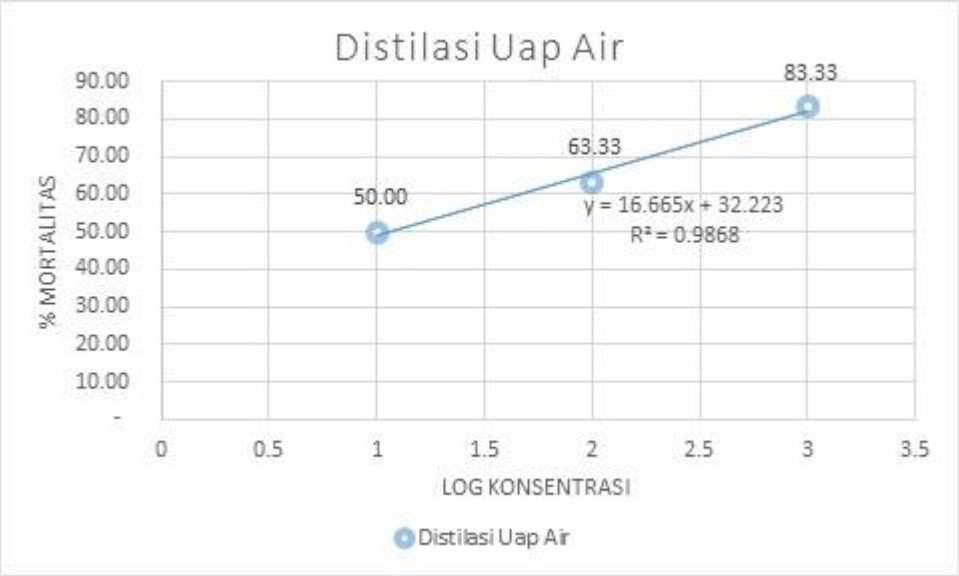
Jam	Konsentrasi minyak atsiri kulit jeruk siam metode maserasi											
	0 ppm			10 ppm			100 ppm			1000 ppm		
	R1	R2	R3	R1	R2	R3	R1	R2	R3	R1	R2	R3
0	0	0	0	0	0	0	0	0	0	0	0	0
24	0	0	0	1	1	0	2	2	2	4	3	4
48	0	0	0	2	2	2	3	3	3	5	5	6
72	0	0	0	5	4	4	6	5	5	7	8	8

Keterangan : R1 : Replikasi Satu
R2 : Replikasi Dua
R3 : Replikasi Tiga

Lampiran 11. Kurva dan Perhitungan Nilai LC_{50}

1. Minyak atsiri kulit jeruk siam (*Citrus nobilis*) metode distilasi uap air

No	Konsentrasi (ppm)	Log Konsentrasi	% Mortalitas
1	10	1	50
2	100	2	63.33
3	1000	3	83.33



- Perhitungan LC_{50}

  y = 16.665x + 32.223

  50 = 16.665x + 32.223

  50 – 32.223= 16.665x

  × = 1,09

  log yang menghasilkan nilai 1,09 adalah 12.,337

Jadi, untuk konsentrasi atau nilai LC_{50} pada minyak atsiri kulit jeruk siam (*Citrus nobilis*) dengan metode distilasi uap air yang mampu mematikan 50% larva nyamuk *Aedes aegypti* adalah 12,337 ppm

2. Minyak atsiri kulit jeruk siam (*Citrus nobilis*) metode maserasi

No	Konsentrasi (ppm)	Log Konsentrasi	% Mortalitas
1	10	1	43.33
2	100	2	53.33
3	1000	3	76.67

- Perhitungan LC_{50}

  y = 16.67x + 24.437

  50 = 16.67x + 24.437

  50 – 24.437= 16.67x

  × = 1,53

log yang menghasilkan nilai 1,53 yaitu 33,433

Jadi, untuk konsentrasi atau nilai LC_{50} pada minyak atsiri kulit jeruk siam (*Citrus nobilis*) dengan metode maserasi yang mampu mematikan 50% larva nyamuk *Aedes aegypti* adalah 33,433 ppm.

Lampiran 12. Perhitungan Mortalitas

$$\%\text{Mortalitas} = \frac{\text{Jumlah larva yang mati}}{\text{jumlah larva uji}} \times 100\%$$

1. Minyak atsiri kulit jeruk siam (*Citrus nobilis*) metode distilasi uap air
   - Konsentrasi 10 ppm

     $$\text{Mortalitas} = \frac{15}{30} \times 100\%$$

     $$= 50{,}00\ \%$$

   - Konsentrasi 100 ppm

$$\text{Mortalitas} = \frac{\text{Jumlah larva yang mati}}{\text{jumlah larva uji}} \times 100\%$$

$$= \frac{19}{30} \times 100\%$$

$$= 63{,}33\%$$

- Konsentrasi 100 ppm

$$\text{Mortalitas} = \frac{\text{Jumlah larva yang mati}}{\text{jumlah larva uji}} \times 100\%$$

$$= \frac{25}{30} \times 100\%$$

$$= 83{,}33\%$$

2. Minyak atsiri kulit jeruk siam (*Citrus nobilis*) metode maserasi
   - Konsentrasi 10 ppm

$$\text{Mortalitas} = \frac{13}{30} \times 100\%$$

$$= 43{,}33\ \%$$

   - Konsentrasi 100 ppm

$$\text{Mortalitas} = \frac{\text{Jumlah larva yang mati}}{\text{jumlah larva uji}} \times 100\%$$

$$= \frac{16}{30} \times 100\%$$

$$= 53{,}33\%$$

   - Konsentrasi 100 ppm

$$\%\text{Mortalitas} = \frac{\text{Jumlah larva yang mati}}{\text{jumlah larva uji}} \times 100\%$$

$$= \frac{23}{30} \times 100\%$$

$$= 76{,}67\%$$

Lampiran 13. Uji Korelasi Terhadap Waktu Kematian Larva

1. Minyak Atsiri Kulit Jeruk Siam (*Citrus nobilis*) Metode Distilasi Uap Air

Correlations					
		jam	x	y	z
jam	Pearson Correlation	1	.988*	.997**	.969*
	Sig. (2-tailed)		.012	.003	.031
	N	4	4	4	4
10ppm	Pearson Correlation	.988*	1	.975*	.952*
	Sig. (2-tailed)	.012		.025	.048
	N	4	4	4	4
100ppm	Pearson Correlation	.997**	.975*	1	.977*
	Sig. (2-tailed)	.003	.025		.023
	N	4	4	4	4
1000ppm	Pearson Correlation	.969*	.952*	.977*	1
	Sig. (2-tailed)	.031	.048	.023	
	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. Minyak Atsiri Kulit Jeruk Siam (*Citrus nobilis*) Metode Maserasi

Correlations					
		jam	x	y	z
jam	Pearson Correlation	1	.968*	.990*	.987*
	Sig. (2-tailed)		.032	.010	.013
	N	4	4	4	4
10ppm	Pearson Correlation	.968*	1	.972*	.927
	Sig. (2-tailed)	.032		.028	.073
	N	4	4	4	4
100ppm	Pearson Correlation	.990*	.972*	1	.986*
	Sig. (2-tailed)	.010	.028		.014
	N	4	4	4	4
1000ppm	Pearson Correlation	.987*	.927	.986*	1
	Sig. (2-tailed)	.013	.073	.014	
	N	4	4	4	4
*. Correlation is significant at the 0.05 level (2-tailed).					

Lampiran 14. Perhitungan LC_{50} dengan Menggunakan Analisis Probit

1. Analisis probit LC_{50} dari minyak atsiri kulit jeruk siam (*Citrus nobilis*) dengan metode distilasi uap air terhadap larva *Aedes aegypti*

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

Convergence Information		
	Number of Iterations	Optimal Solution Found
PROBIT	9	Yes

Chi-Square Tests				
		Chi-Square	df[b]	Sig.
PROBIT	Pearson Goodness-of-Fit Test	.238	1	.626[a]
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							
	Number	Konsentrasi	Number of Subjects	Observed Responses	Expected Responses	Residual	Probability
PROBIT	1	1.000	30	15	14.481	.519	.483
	2	2.000	30	19	20.012	-1.012	.667
	3	3.000	30	25	24.533	.467	.818

Confidence Limits				
Probability		95% Confidence Limits for Konsentrasi		
		Estimate	Lower Bound	Upper Bound
PROBIT	0.01	0	0	0.043
	0.02	0.001	0	0.093
	0.03	0.001	0	0.152
	0.04	0.003	0	0.221
	0.05	0.004	0	0.299
	0.06	0.007	0	0.388
	0.07	0.01	0	0.486
	0.08	0.014	0	0.597
	0.09	0.019	0	0.719
	0.1	0.025	0	0.853
	0.15	0.081	0	1.743
	0.2	0.209	0	3.097
	0.25	0.47	0	5.112
	0.3	0.972	0	8.092
	0.35	1.907	0	12.536
	0.4	3.614	0.001	19.319
	0.45	6.711	0.007	30.136
	0.5	12.337	0.052	48.792
	0.55	22.683	0.382	85.857
	0.6	42.114	2.442	181.142
	0.65	79.832	11.734	554.645
	0.7	156.633	37.206	2973.976
	0.75	324.162	85.647	27487.126
	0.8	728.634	171.971	412151.961
	0.85	1872.892	341.929	10968536.59
	0.9	6143.144	750.143	737204228.7
	0.91	8184.476	900.593	2051149662
	0.92	11177.689	1096.177	6247065230
	0.93	15746.676	1357.816	21300790806
	0.94	23089.596	1720.889	83998271309
	0.95	35727.251	2249.907	4.02558E+11
	0.96	59667.185	3075.242	2.54361E+12
	0.97	112088.507	4502.885	2.46006E+13
	0.98	259157.882	7447.986	5.0419E+14
	0.99	971133.052	16362.85	5.92315E+16

a. Logarithm base = 10.

2. Analisis probit LC_{50} dari minyak atsiri kulit jeruk siam (*Citrus nobilis*) dengan metode maserasi terhadap larva *Aedes aegypti*

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

Convergence Information		
	Number of Iterations	Optimal Solution Found
PROBIT	9	Yes

Parameter Estimates							
						95% Confidence Interval	
	Parameter	Estimate	Std. Error	Z	Sig.	Lower Bound	Upper Bound
PROBIT[a]	Konsentrasi	.442	.170	2.608	.009	.110	.774
	Intercept	-.674	.358	-1.884	.060	-1.031	-.316
a. PROBIT model: PROBIT(p) = Intercept + BX (Covariates X are transformed using the base 10.000 logarithm.)							

Chi-Square Tests				
		Chi-Square	df[b]	Sig.
PROBIT	Pearson Goodness-of-Fit Test	.474	1	.491[a]
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							
	Number	Konsentrasi	Number of Subjects	Observed Responses	Expected Responses	Residual	Probability
PROBIT	1	1.000	30	13	12.252	.748	.408
	2	2.000	30	16	17.499	-1.499	.583
	3	3.000	30	23	22.287	.713	.743

Confidence Limits				
Probability		95% Confidence Limits for Konsentrasi		
		Estimate	Lower Bound	Upper Bound
PROBIT	0.01	0	0	0.056
	0.02	0.001	0	0.127
	0.03	0.002	0	0.214
	0.04	0.004	0	0.317
	0.05	0.006	0	0.437
	0.06	0.01	0	0.576
	0.07	0.015	0	0.733
	0.08	0.022	0	0.911
	0.09	0.031	0	1.11
	0.1	0.042	0	1.332
	0.15	0.151	0	2.853
	0.2	0.417	0	5.284
	0.25	0.996	0	9.08
	0.3	2.177	0	15.013
	0.35	4.492	0	24.505
	0.4	8.934	0.005	40.529
	0.45	17.374	0.061	70.606
	0.5	33.433	0.625	139.94
	0.55	64.337	4.743	373.535
	0.6	125.119	21.761	1731.843
	0.65	248.82	59.98	14810.744
	0.7	513.483	124.878	198791.933
	0.75	1122.203	233.849	3861319.345
	0.8	2680.229	431.254	114537317.1
	0.85	7394.247	834.535	6281990401
	0.9	26510.809	1841.542	1.00776E+12
	0.91	36087.646	2220.911	3.44879E+12
	0.92	50450.021	2718.835	1.31415E+13
	0.93	72920.474	3391.899	5.72798E+13
	0.94	110035.078	4336.73	2.96911E+14
	0.95	175921.349	5731.464	1.94209E+15
	0.96	305311.036	7940.676	1.76699E+16
	0.97	601289.777	11833.117	2.67293E+17
	0.98	1480332.659	20057.878	9.91685E+18
	0.99	6124320.879	45879.96	2.96351E+21

a. Logarithm base = 10.

Lampiran 15. Analisis data dengan uji t-test

1. Rendemen Minyak Atsiri Kulit Jeruk Siam (*Citrus nobilis*)

- Uji Normalitas menggunakan teknik statistik Shapiro-Wilk

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Maserasi	.373	3	.	.780	3	.067
Distilasi uap air	.315	3	.	.891	3	.358

Berdasarkan hasil analisis data menggunakan Shapiro-Wilk diperoleh harga sig untuk kelas eksperimen dan kelas kontrol masing-masing sebesar 0.067 dan 0.358. Nilai signifikan ini lebih besar dari 0.05 sehingga nilai kedua kelas berdistribusi normal.

- Uji Homogenitas dengan *Test* Levene Statistic

Test of Homogeneity of Variances			
Levene Statistic	df1	df2	Sig.
4.464	1	4	.102

Berdasarkan hasil analisis diatas diperoleh Levene Statistic = 4.464, df1 = 1, df = 2, dan nilai sig. 0.102 > 0.05 sehingga nilai minyak atsiri kedua kelas yaitu homogen.

- Uji Hipotesis dengan *Independent sample t-test*

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
Minyak Atsiri	Equal variances assumed	4.464	.102	15.866	4	.000	1.17433	.07402	.96883	1.37984
	Equal variances not assumed			15.866	2.500	.001	1.17433	.07402	.90975	1.43892

Berdasarkan tabel di atas. nilai sig. pada kolom sig. (2-tailed) dan baris *Equal variances assumed* sebesar 0.000. Nilai signifikan lebih kecil dari pada 0.05 sehingga H_0 ditolak dan H_a diterima yang berarti terdapat perbedaan signifikan terhadap rendemen minyak atsiri kulit jeruk siam (*Citrus nobilis*) yang diisolasi dengan metode maserasi dan distilasi uap air.

2. Aktivitas antioksidan

- Uji Normalitas menggunakan teknik statistik Shapiro-Wilk

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
maserasi	.244	5	.200*	.892	5	.367
distilasi	.191	5	.200*	.915	5	.496
*. This is a lower bound of the true significance.						
a. Lilliefors Significance Correction						

Berdasarkan hasil analisis data menggunakan Shapiro-Wilk diperoleh harga sig untuk kelas eksperimen dan kelas kontrol masing-masing sebesar 0.367 dan 0.496. Nilai signifikan lebih besar dari 0.05 sehingga nilai kedua kelas berdistribusi normal.

- Uji Homogenitas dengan *Levene's test*

Test of Homogeneity of Variances			
Levene Statistic	df1	df2	Sig.
.337	1	8	.578

Berdasarkan hasil analisis data diatas. diperoleh *Levene statistic* = 0.337, df1 = 1, df = 8, dan Sig. = 0.578> 0.05 sehingga nilai minyak atsiri kedua kelas yaitu homogen.

- Uji Hipotesis dengan *Independent sample t-test*

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
Minyak atsiri	Equal variances assumed	.337	.578	-2.398	8	.043	-24.01400	10.01520	-47.10910	-.91890
	Equal variances not assumed			-2.398	7.489	.045	-24.01400	10.01520	-47.38651	-.64149

Berdasarkan tabel di atas. nilai sig. pada kolom sig. (2-tailed) dan baris *Equal variances assumed* sebesar 0.043. Nilai signifikan ini lebih kecil dari pada 0.05 sehingga H_0 ditolak dan H_a diterima yang berarti terdapat perbedaan signifikan terhadap aktivitas antioksidan minyak atsiri kulit jeruk siam (*Citrus nobilis*) yang diisolasi dengan metode maserasi dan distilasi uap air.

3. Aktivitas antibakteri

A. Bakteri *Staphylococcus aureus*

- Uji Normalitas menggunakan teknik statistik Shapiro-Wilk

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
distilasi	.177	4	.	.977	4	.887
maserasi	.171	4	.	.996	4	.987
a. Lilliefors Significance Correction						

Berdasarkan hasil analisis data menggunakan Shapiro-Wilk diperoleh harga sig untuk kelas eksperimen dan kelas kontrol masing-masing sebesar 0.887 dan 0.987. Nilai signifikan lebih besar dari 0.05 sehingga nilai kedua kelas berdistribusi normal.

- Uji Homogenitas dengan *Levene's test*

Test of Homogeneity of Variances			
Levene Statistic	df1	df2	Sig.
.505	1	6	.504

Berdasarkan hasil analisis data diatas, diperoleh *Levene statistic* = 0.505. df1 = 1. df = 6. dan Sig. = 0.504 > 0.05, sehingga nilai minyak atsiri kedua kelas yaitu homogen.

- Uji Hipotesis dengan *Independent sample t-test*

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
Minyak atsiri	Equal variances assumed	.505	.504	.639	6	.547	.79000	1.23676	-2.23623	3.81623
	Equal variances not assumed			.639	5.480	.549	.79000	1.23676	-2.30728	3.88728

Berdasarkan tabel di atas. nilai sig. pada kolom sig. (2-tailed) dan baris *Equal variances assumed* sebesar 0.547. Nilai signifikan lebih besar dari pada 0.05 sehingga H_0 diterima dan H_a ditolak yang berarti tidak terdapat perbedaan aktivitas

antibakteri minyak atsiri kulit jeruk siam (*Citrus nobilis*) yang diisolasi dengan metode maserasi dan distilasi uap air terhadap bakteri *Staphylococcus aureus*.

B. Bakteri *Escherichia coli*

- Uji Normalitas menggunakan teknik statistik Shapiro-Wilk

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
distilasi	.261	4	.	.912	4	.494
maserasi	.211	4	.	.963	4	.799
a. Lilliefors Significance Correction						

Berdasarkan hasil analisis data menggunakan Shapiro-Wilk diperoleh harga sig untuk kelas eksperimen dan kelas kontrol masing-masing sebesar 0.494 dan 0.799. Nilai signifikan lebih besar dari 0.05 sehingga nilai kedua kelas berdistribusi normal.

- Uji Homogenitas dengan *Levene's test*

Test of Homogeneity of Variances			
Levene Statistic	df1	df2	Sig.
.549	1	6	.487

Berdasarkan hasil analisis data diatas. diperoleh *Levene statistic* = 0.549, df1 = 1. df = 6. dan Sig. = 0.487 > 0.05 sehinga nliai minyak atsiri kedua kelas yaitu homogen.

- Uji Hipotesis dengan *Independent sample t-test*

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
Minyak atsiri	Equal variances assumed	.549	.487	.731	6	.492	.79500	1.08709	-1.86501	3.45501
	Equal variances not assumed			.731	5.681	.494	.79500	1.08709	-1.90158	3.49158

Berdasarkan tabel di atas. nilai sig. pada kolom sig. (2-tailed) dan baris *Equal variances assumed* sebesar 0.492. Nilai signifikan lebih besar dari pada 0.05 sehingga H_0 diterima dan H_a ditolak yang berarti tidak terdapat perbedaan aktivitas antibakteri minyak atsiri kulit jeruk siam (*Citrus nobilis*) yang diisolasi dengan metode maserasi dan distilasi uap air terhadap bakteri *Escherichia coli*.

4. Aktivitas larvasida

- Uji Normalitas menggunakan teknik statistik Shapiro-Wilk

Tests of Normality						
	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
distilasi	.259	4	.	.935	4	.623
maserasi	.250	4	.	.956	4	.756
a. Lilliefors Significance Correction						

Berdasarkan hasil analisis data menggunakan Shapiro-Wilk diperoleh harga sig untuk kelas eksperimen dan kelas kontrol masing-masing sebesar 0.623 dan 0.756. Nilai signifikan lebih besar dari 0.05 sehingga nilai kedua kelas berdistribusi normal.

- Uji Homogenitas dengan *Levene's test*

Test of Homogeneity of Variances			
Levene Statistic	df1	df2	Sig.
.040	1	6	.849

Berdasarkan hasil analisis data diatas. diperoleh *Levene statistic* = 0.040, df1 = 1. df = 6. dan Sig. = 0.849> 0.05 sehinga nliai minyak atsiri kedua kelas yaitu homogen.

- Uji Hipotesis dengan *Independent sample t-test*

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
Minyak atsiri	Equal variances assumed	.040	.849	.244	6	.816	1.75000	7.18070	-15.82055	19.32055
	Equal variances not assumed			.244	5.939	.816	1.75000	7.18070	-15.86445	19.36445

Berdasarkan tabel di atas. nilai sig. pada kolom sig. (2-tailed) dan baris *Equal variances assumed* sebesar 0.816. Nilai signifikan lebih besar dari pada 0.05 sehingga H_0 diterima dan H_a ditolak yang berarti tidak terdapat perbedaan aktivitas larvasida antara minyak atsiri kulit jeruk siam (*Citrus nobilis*) yang diisolasi dengan metode maserasi dan distilasi uap air.

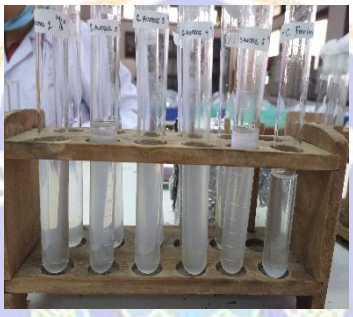
Lampiran 16. Dokumentasi Pengambilan Data

(a) Kulit jeruk siam (*Citrus nobilis*) setelah dihaluskan kemudian ditimbang

(b) Proses distilasi uap air

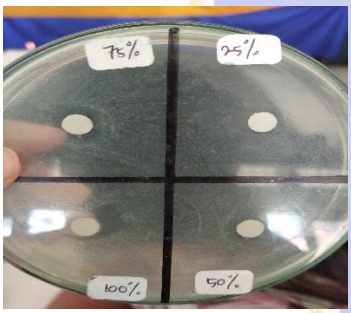
(c) Proses maserasi

(d) Proses distilasi sederhana

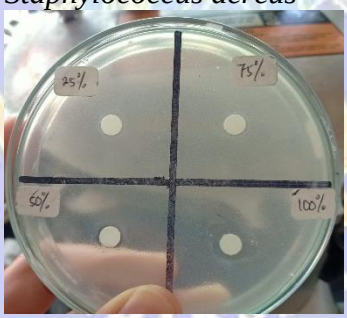


(e) Suspensi bakteri *Staphylococcus aereus*

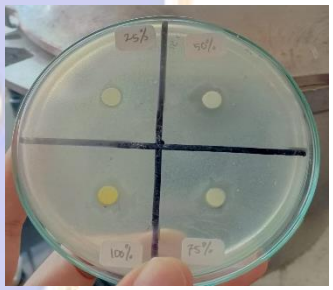
(f) Suspensi bakteri *Escherichia coli*



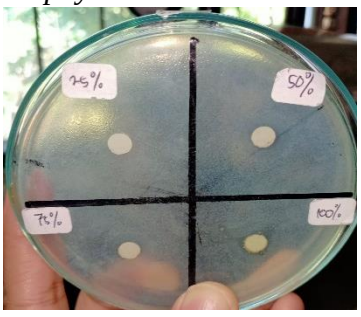
(g) Zona hambat untuk minyak atsiri kulit jeruk siam yang diisolasi dengan distilasi uap air terhadap bakteri *Staphylococcus aereus*

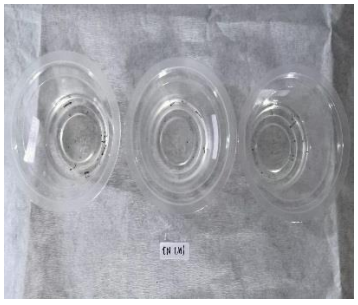


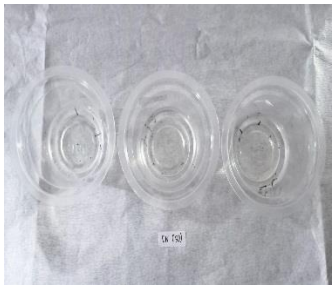
(h) Zona hambat untuk minyak atsiri kulit jeruk siam yang diisolasi dengan distilasi uap air terhadap bakteri *Escherichia coli*



(i) Zona hambat untuk minyak atsiri kulit jeruk siam yang diisolasi dengan maserasi terhadap bakteri *Staphylococcus aereus*



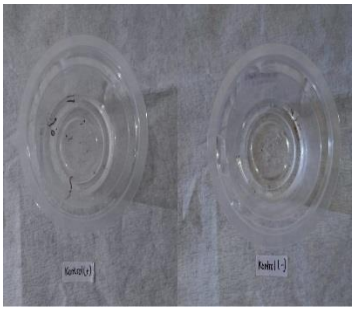




(j) Zona hambat untuk minyak atsiri kulit jeruk siam yang diisolasi dengan maserasi terhadap bakteri *Escherichia coli*

(k) Hasil uji larvasida pada minyak atsiri kulit jeruk siam yang diisolasi dengan maserasi terhadap nyamuk *Aedes aeypti*

(l) Hasil uji larvasida pada minyak atsiri kulit jeruk siam yang diisolasi dengan distilasi uap air terhadap nyamuk *Aedes aeypti*



(m) Hasil uji larvasida pada kontrol (-) dan (+) terhadap nyamuk *Aedes aeypti*

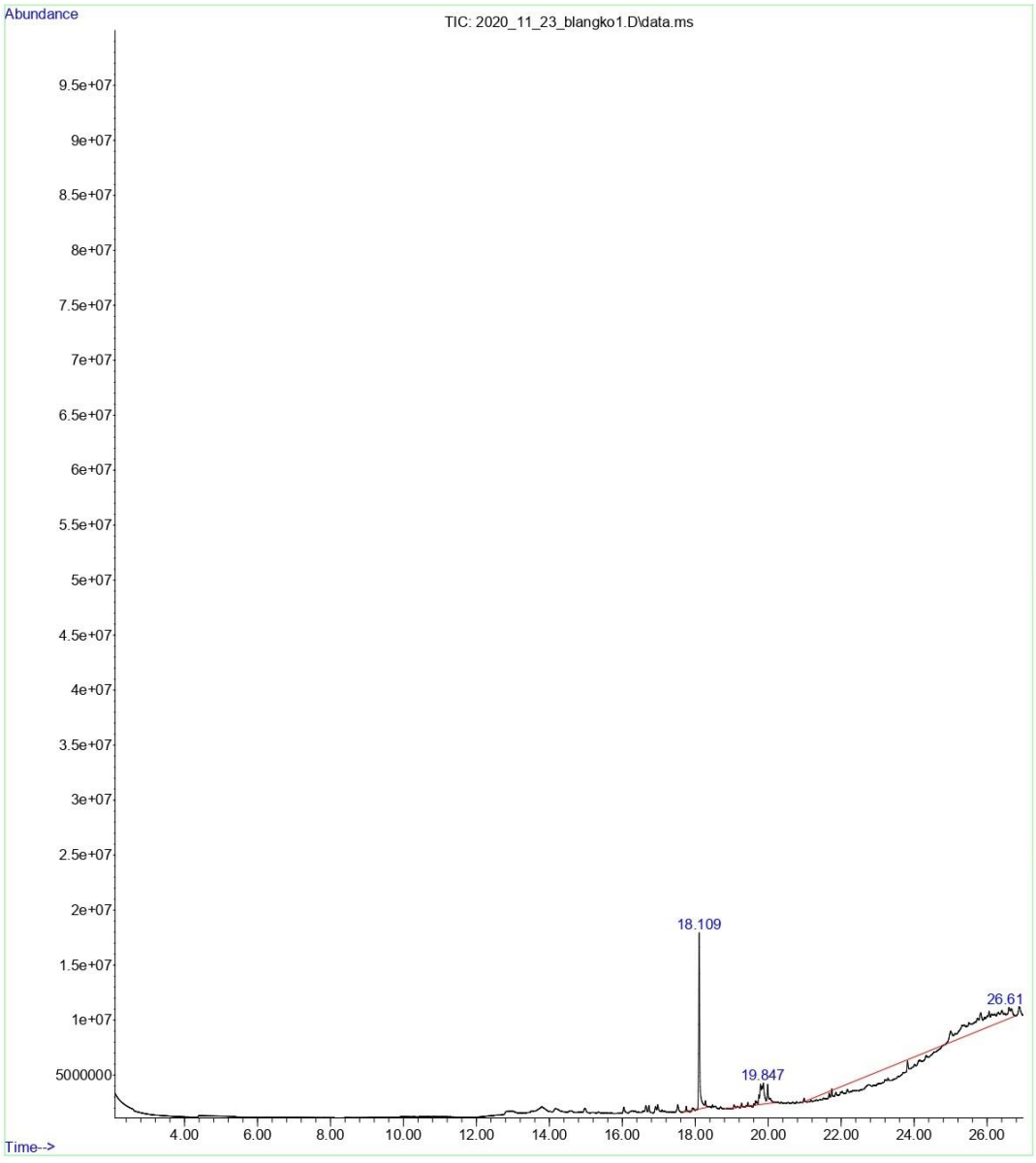
(n) Zona hambat untuk kontrol (-) terhadap bakteri *Staphylococcus aereus*

(o) Zona hambat untuk kontrol terhadap bakteri *Escherichia coli*

(p) Alat refraktometer ABBE untuk mengukur indeks bias

Lampiran 17. Blanko Kromatogram Hasil GCMS

File :D:\MassHunter\GCMS\2\2020_11_23_blangko1.D
Operator : NGR
Acquired : 23 Nov 2020 14:32 using AcqMethod Bahan Alam New.M
Instrument : GC MSD 5977B
Sample Name: Undiksa/Kimia
Misc Info : Laksmi
Vial Number: 1



Lampiran 18. Blanko Library

Library Search Report

Data Path : D:\MassHunter\GCMS\2\
Data File : 2020_11_23_blangko1.D
Acq On : 23 Nov 2020 14:32
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	18.109	-228.72	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
2	19.847	-141.16	D:\DATABASE\NIST14.L			
			9-Octadecenoic acid, (E)-	142088	000112-79-8	90
			Octadec-9-enoic acid	142076	1000190-13-7	74
			6-Octadecenoic acid	142075	1000336-66-8	60
3	26.612	469.88	D:\DATABASE\NIST14.L			
			n-Propyl 11-octadecenoate	182559	1000336-71-7	59
			Benzo[h]quinoline, 2,4-dimethyl-	71668	000605-67-4	42
			1H-Indole, 5-methyl-2-phenyl-	71661	013228-36-9	30

Lampiran 19. Library Koromatogram dari Isolasi Maserasi

Library Search Report

Data Path : D:\MassHunter\GCMS\2\
Data File : 2020_11_23_C Nobilis_M.D
Acq On : 23 Nov 2020 16:20
Operator : NGR
Sample : Undiksa/Kimia
Misc : Melia
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	2.422	0.17	D:\DATABASE\NIST14.L			
			Hexanal	3826	000066-25-1	64
			Hexanal	3830	000066-25-1	52
			Hexanal	3831	000066-25-1	47
2	3.233	0.13	D:\DATABASE\NIST14.L			
			Oxirane, (1-methylbutyl)-	7698	053229-39-3	64
			1-Hexanol	4478	000111-27-3	59
			1-Hexanol	4486	000111-27-3	53
3	3.522	0.53	D:\DATABASE\NIST14.L			
			Cyclohexanol	3848	000108-93-0	95
			Cyclohexanol	3856	000108-93-0	93
			Cyclohexanol	3857	000108-93-0	91
4	3.715	0.25	D:\DATABASE\NIST14.L			
			Nonane	12937	000111-84-2	76
			Nonane	12938	000111-84-2	68
			Nonane	12939	000111-84-2	52
5	4.238	0.16	D:\DATABASE\NIST14.L			
			Bicyclo[3.1.0]hex-2-ene, 2-methyl-5-(1-methylethyl)-	16271	002867-05-2	93
			Bicyclo[3.1.0]hex-2-ene, 2-methyl-5-(1-methylethyl)-	16277	002867-05-2	91
			.alpha.-Phellandrene	16096	000099-83-2	90
6	4.375	1.81	D:\DATABASE\NIST14.L			
			.alpha.-Pinene	16068	000080-56-8	83
			(1R)-2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene	16224	007785-70-8	83
			(1S)-2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene	16223	007785-26-4	80
7	4.650	0.19	D:\DATABASE\NIST14.L			
			Bicyclo[2.2.1]heptane, 2,2-dimethyl-3-methylene-, (1S)-	16285	005794-04-7	97
			Camphene	16040	000079-92-5	97
			Camphene	16029	000079-92-5	97
8	4.840	0.37	D:\DATABASE\NIST14.L			
			Ethanol, 2,2'-oxybis-	5061	000111-46-6	53
			Ethanol, 2,2'-oxybis-	5064	000111-46-6	53
			Ethanol, 2,2'-oxybis-	5063	000111-46-6	40
9	5.077	5.39	D:\DATABASE\NIST14.L			
			.gamma.-Terpinene	16078	000099-85-4	93
			Bicyclo[3.1.0]hexane, 4-methylene-1-(1-methylethyl)-	16270	003387-41-5	86
			Cyclohexene, 4-methylene-1-(1-methylethyl)-	16216	000099-84-3	76
10	5.344	3.63	D:\DATABASE\NIST14.L			
			3-Carene	16036	013466-78-9	60

Library Search Report

Data Path : D:\MassHunter\GCMS\2\
Data File : 2020_11_23_C Nobilis_M.D
Acq On : 23 Nov 2020 16:20
Operator : NGR
Sample : Undiksa/Kimia
Misc : Melia
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
			3-Carene	16028	013466-78-9	60
			(+)-3-Carene	16050	000498-15-7	60
11	6.202	13.33	D:\DATABASE\NIST14.L			
			D-Limonene	16046	005989-27-5	96
			D-Limonene	16045	005989-27-5	93
			D-Limonene	16044	005989-27-5	89
12	6.394	1.09	D:\DATABASE\NIST14.L			
			1,3,6-Octatriene, 3,7-dimethyl-, (Z)-	16175	003338-55-4	98
			.beta.-Ocimene	16062	013877-91-3	98
			1,3,7-Octatriene, 3,7-dimethyl-	16133	000502-99-8	97
13	6.595	0.58	D:\DATABASE\NIST14.L			
			.gamma.-Terpinene	16077	000099-85-4	96
			.gamma.-Terpinene	16075	000099-85-4	95
			.gamma.-Terpinene	16076	000099-85-4	93
14	6.752	1.67	D:\DATABASE\NIST14.L			
			Formic acid, octyl ester	31262	000112-32-3	91
			1-Octanol	13944	000111-87-5	91
			1-Octanol	13945	000111-87-5	90
15	7.097	0.56	D:\DATABASE\NIST14.L			
			trans-Linalool oxide (furanoid)	39617	034995-77-2	53
			2-Furanmethanol, 5-ethenyltetrahydro-.alpha.,.alpha.,5-trimethyl-, cis-	39796	005989-33-3	49
			.alpha.-Methyl-.alpha.-[4-methyl-3-pentenyl]oxiranemethanol	39785	1000132-13-0	43
16	7.285	3.46	D:\DATABASE\NIST14.L			
			Linalool	27447	000078-70-6	95
			Linalool	27453	000078-70-6	86
			Linalool	27451	000078-70-6	83
17	7.529	0.26	D:\DATABASE\NIST14.L			
			Phenylethyl Alcohol	10107	000060-12-8	92
			Phenylethyl Alcohol	10109	000060-12-8	58
			Benzeneacetamide	15843	000103-81-1	49
18	7.660	0.33	D:\DATABASE\NIST14.L			
			2-Cyclohexen-1-ol, 1-methyl-4-(1-methylethenyl)-, trans-	26132	007212-40-0	98
			2-Cyclohexen-1-ol, 1-methyl-4-(1-methylethenyl)-, trans-	26134	007212-40-0	97
			1,3,8-p-Menthatriene	15166	018368-95-1	51
19	7.798	1.24	D:\DATABASE\NIST14.L			
			2,6-Dimethyl-1,3,5,7-octatetraene, E,E-	15254	000460-01-5	97
			2,6-Dimethyl-1,3,5,7-octatetraene, E,E-	15253	000460-01-5	96

Library Search Report

Data Path : D:\MassHunter\GCMS\2\
Data File : 2020_11_23_C Nobilis_M.D
Acq On : 23 Nov 2020 16:20
Operator : NGR
Sample : Undiksa/Kimia
Misc : Melia
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
			Cyclobutene, bis(1-methylethyliden e)-	15250	003642-14-6	96
20	8.154	0.43	D:\DATABASE\NIST14.L			
			6-Octenal, 3,7-dimethyl-, (R)-	27601	002385-77-5	97
			Citronellal	27479	000106-23-0	95
			7-Octenal, 3,7-dimethyl-	27559	000141-26-4	91
21	8.434	1.39	D:\DATABASE\NIST14.L			
			1-Nonanol	21671	000143-08-8	91
			1-Nonanol	21673	000143-08-8	91
			Acetic acid, trichloro-, nonyl est er	147372	065611-32-7	90
22	8.606	0.89	D:\DATABASE\NIST14.L			
			Terpinen-4-ol	27498	000562-74-3	97
			Terpinen-4-ol	27505	000562-74-3	96
			3-Cyclohexen-1-ol, 4-methyl-1-(1-m ethylethyl)-, (R)-	27780	020126-76-5	94
23	8.820	2.10	D:\DATABASE\NIST14.L			
			L-.alpha.-Terpineol	27533	010482-56-1	90
			L-.alpha.-Terpineol	27531	010482-56-1	90
			Terpineol	27454	1000411-59-6	90
24	8.977	1.32	D:\DATABASE\NIST14.L			
			Decanal	29133	000112-31-2	97
			Decanal	29128	000112-31-2	97
			Decanal	29131	000112-31-2	83
25	9.337	1.84	D:\DATABASE\NIST14.L			
			Citronellol	29156	000106-22-9	96
			Citronellol	29151	000106-22-9	96
			6-Octen-1-ol, 3,7-dimethyl-, (R)-	29256	001117-61-9	96
26	9.970	1.56	D:\DATABASE\NIST14.L			
			E-11,13-Tetradecadien-1-ol	74494	1000131-00-3	97
			1-Decanol	30629	000112-30-1	91
			1-Decanol	30614	000112-30-1	91
27	10.313	0.53	D:\DATABASE\NIST14.L			
			p-Mentha-1,8-dien-7-ol	25883	000536-59-4	46
			p-Mentha-1,8-dien-7-yl acetate	59537	015111-96-3	38
			1,4-Pentadiene	445	000591-93-5	38
28	10.488	0.68	D:\DATABASE\NIST14.L			
			Undecanal	39872	000112-44-7	97
			Undecanal	39873	000112-44-7	94
			Undecanal	39875	000112-44-7	91
29	10.995	1.69	D:\DATABASE\NIST14.L			
			Cyclohexene, 4-ethenyl-4-methyl-3- (1-methylethenyl)-1-(1-methylethyl)-, (3R-trans)-	68824	020307-84-0	99

Library Search Report

Data Path : D:\MassHunter\GCMS\2\
Data File : 2020_11_23_C Nobilis_M.D
Acq On : 23 Nov 2020 16:20
Operator : NGR
Sample : Undiksa/Kimia
Misc : Melia
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
			Cyclohexene, 4-ethenyl-4-methyl-3-(1-methylethenyl)-1-(1-methylethyl)-, (3R-trans)-	68823	020307-84-0	98
			2-Carene	16030	000554-61-0	95
30	11.286	0.75	D:\DATABASE\NIST14.L			
			2,6-Octadien-1-ol, 3,7-dimethyl-, acetate, (Z)-	61598	000141-12-8	91
			2,6-Octadien-1-ol, 3,7-dimethyl-, acetate, (Z)-	61601	000141-12-8	91
			Butanoic acid, 3,7-dimethyl-2,6-octadienyl ester, (E)-	87637	000106-29-6	90
31	11.764	4.84	D:\DATABASE\NIST14.L			
			Cyclohexane, 1-ethenyl-1-methyl-2,4-bis(1-methylethenyl)-, [1S-(1.alpha.,2.beta.,4.beta.)]-	68843	000515-13-9	91
			Cyclohexane, 1-ethenyl-1-methyl-2,4-bis(1-methylethenyl)-	68686	110823-68-2	87
			Cyclohexane, 1-ethenyl-1-methyl-2,4-bis(1-methylethenyl)-, [1S-(1.alpha.,2.beta.,4.beta.)]-	68845	000515-13-9	83
32	12.173	0.53	D:\DATABASE\NIST14.L			
			Caryophyllene	68509	000087-44-5	99
			Caryophyllene	68513	000087-44-5	99
			Bicyclo[7.2.0]undec-4-ene, 4,11,11-trimethyl-8-methylene-	68690	013877-93-5	94
33	12.622	2.73	D:\DATABASE\NIST14.L			
			Humulene	68480	006753-98-6	98
			1,4,7,-Cycloundecatriene, 1,5,9,9-tetramethyl-, Z,Z,Z-	68676	1000062-61-9	97
			Humulene	68481	006753-98-6	95
34	12.965	1.57	D:\DATABASE\NIST14.L			
			Germacrene D	68507	023986-74-5	99
			Germacrene D	68505	023986-74-5	96
			(S,1Z,6Z)-8-Isopropyl-1-methyl-5-methylenecyclodeca-1,6-diene	68715	317819-80-0	93
35	13.160	1.26	D:\DATABASE\NIST14.L			
			(1S,2E,6E,10R)-3,7,11,11-Tetramethylbicyclo[8.1.0]undeca-2,6-diene	68737	024703-35-3	98
			Bicyclogermacrene	68562	067650-90-2	93
			1,5-Cyclodecadiene, 1,5-dimethyl-8-(1-methylethylidene)-, (E,E)-	68727	015423-57-1	81
36	13.449	0.39	D:\DATABASE\NIST14.L			
			Naphthalene, 1,2,3,5,6,8a-hexahydro-4,7-dimethyl-1-(1-methylethyl)-, (1S-cis)-	68798	000483-76-1	98
			Naphthalene, 1,2,3,5,6,8a-hexahydro-4,7-dimethyl-1-(1-methylethyl)-,	68797	000483-76-1	97

Library Search Report

Data Path : D:\MassHunter\GCMS\2\
Data File : 2020_11_23_C Nobilis_M.D
Acq On : 23 Nov 2020 16:20
Operator : NGR
Sample : Undiksa/Kimia
Misc : Melia
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
			(1S-cis)-			
			1-Isopropyl-4,7-dimethyl-1,2,3,5,6,8a-hexahydronaphthalene	68698	016729-01-4	96
37	13.635	0.28	D:\DATABASE\NIST14.L			
			Cyclohexane, 1-methyl-4-(1-methylethenyl)-, trans-	17419	001124-25-0	76
			9,12-Tetradecadien-1-ol, (Z,E)-	74499	051937-00-9	68
			3-Tetradecyne	59855	060212-32-0	60
38	13.792	1.47	D:\DATABASE\NIST14.L			
			Cyclohexanemethanol, 4-ethenyl-.alpha.,.alpha.,4-trimethyl-3-(1-methylethenyl)-, [1R-(1.alpha.,3.alpha.,4.beta.)]-	85868	000639-99-6	93
			Cyclohexanemethanol, 4-ethenyl-.alpha.,.alpha.,4-trimethyl-3-(1-methylethenyl)-, [1R-(1.alpha.,3.alpha.,4.beta.)]-	85860	000639-99-6	87
			Cyclohexanemethanol, 4-ethenyl-.alpha.,.alpha.,4-trimethyl-3-(1-methylethenyl)-, [1R-(1.alpha.,3.alpha.,4.beta.)]-	85864	000639-99-6	87
39	14.137	0.57	D:\DATABASE\NIST14.L			
			(2E,4S,7E)-4-Isopropyl-1,7-dimethylcyclodeca-2,7-dienol	85774	198991-79-6	96
			(2E,4S,7E)-4-Isopropyl-1,7-dimethylcyclodeca-2,7-dienol	85778	198991-79-6	81
			Bicyclo[2.2.1]heptan-2-ol, 1,3,3-trimethyl-, acetate, (1S-exo)-	61652	076109-40-5	45
40	14.277	0.71	D:\DATABASE\NIST14.L			
			2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	146056	006846-50-0	72
			Pentanoic acid, 2,2,4-trimethyl-3-carboxyisopropyl, isobutyl ester	146127	1000140-77-5	64
			2,2,4-Trimethyl-1,3-pentanediol diisobutyrate	146067	006846-50-0	59
41	15.044	1.77	D:\DATABASE\NIST14.L			
			2-Naphthalenemethanol, decahydro-.alpha.,.alpha.,4a-trimethyl-8-methylene-, [2R-(2.alpha.,4a.alpha.,8a.beta.)]-	85858	000473-15-4	60
			cis-Chrysanthenol	25855	055722-60-6	56
			Epiglobulol	85687	1000150-05-1	56
42	16.066	1.69	D:\DATABASE\NIST14.L			
			Tetradecanoic acid	91419	000544-63-8	99
			Tetradecanoic acid	91415	000544-63-8	99
			Tetradecanoic acid	91416	000544-63-8	99
43	16.381	0.47	D:\DATABASE\NIST14.L			

Library Search Report

Data Path : D:\MassHunter\GCMS\2\
Data File : 2020_11_23_C Nobilis_M.D
Acq On : 23 Nov 2020 16:20
Operator : NGR
Sample : Undiksa/Kimia
Misc : Melia
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-Octadecene	113633	000112-88-9	99
			1-Octadecene	113632	000112-88-9	96
			E-7-Octadecene	113635	1000130-92-0	93
44	16.658	0.20	D:\DATABASE\NIST14.L			
			Octadecanal	128800	000638-66-4	99
			Tetradecanal	76508	000124-25-4	99
			Heptadecanal	115508	1000376-70-0	93
45	16.957	0.51	D:\DATABASE\NIST14.L			
			1,4,7,10,13,16-Hexaoxacyclooctadecane	124222	017455-13-9	58
			15-Crown-5	82723	033100-27-5	58
			2-Hexadecanol	104430	014852-31-4	55
46	17.103	0.34	D:\DATABASE\NIST14.L			
			Pentadecanoic acid	104282	001002-84-2	99
			Pentadecanoic acid	104278	001002-84-2	99
			Tetradecanoic acid	91420	000544-63-8	93
47	17.301	0.27	D:\DATABASE\NIST14.L			
			(E)-Hexadec-2-enal	100563	022644-96-8	95
			13-Methyltetradecanal	89788	075853-51-9	86
			cis-9-Hexadecenal	100560	056219-04-6	66
48	17.508	0.21	D:\DATABASE\NIST14.L			
			Ethanol, 2-[2-(2-methoxyethoxy)ethoxy]-	35384	000112-35-6	27
			Ethanol, 2-[2-(2-methoxyethoxy)ethoxy]-	35382	000112-35-6	27
			Propanamide, 3-(3,4-dimethylphenylsulfonyl)-	102920	1000262-80-6	25
49	17.763	1.46	D:\DATABASE\NIST14.L			
			Hexadecanoic acid, methyl ester	130820	000112-39-0	99
			Hexadecanoic acid, methyl ester	130813	000112-39-0	99
			Hexadecanoic acid, methyl ester	130821	000112-39-0	98
50	18.143	5.75	D:\DATABASE\NIST14.L			
			n-Hexadecanoic acid	117419	000057-10-3	99
			n-Hexadecanoic acid	117417	000057-10-3	99
			n-Hexadecanoic acid	117418	000057-10-3	99
51	18.719	0.20	D:\DATABASE\NIST14.L			
			i-Propyl 14-methyl-pentadecanoate	157935	1000336-62-4	95
			Isopropyl palmitate	157893	000142-91-6	49
			Hexadecanoic acid, 1-(hydroxymethyl)-1,2-ethanediyl ester	271876	000761-35-3	38
52	18.885	0.32	D:\DATABASE\NIST14.L			
			Cyclopentadecanone, 2-hydroxy-	102373	004727-18-8	95
			9-Eicosyne	138500	071899-38-2	91
			1,9-Tetradecadiene	59866	112929-06-3	90

Library Search Report

Data Path : D:\MassHunter\GCMS\2\
Data File : 2020_11_23_C Nobilis_M.D
Acq On : 23 Nov 2020 16:20
Operator : NGR
Sample : Undiksa/Kimia
Misc : Melia
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	19.076	0.61	D:\DATABASE\NIST14.L			
			Heptadecanoic acid	130777	000506-12-7	96
			Octadecanoic acid	144271	000057-11-4	93
			Heptadecanoic acid	130775	000506-12-7	93
54	19.409	1.81	D:\DATABASE\NIST14.L			
			9,12-Octadecadienoic acid, methyl ester, (E,E)-	153894	002566-97-4	99
			9,12-Octadecadienoic acid, methyl ester	153873	002462-85-3	99
			9,12-Octadecadienoic acid (Z,Z)-, methyl ester	153890	000112-63-0	99
55	19.836	7.36	D:\DATABASE\NIST14.L			
			9,12,15-Octadecatrienoic acid, (Z,Z,Z)-	138418	000463-40-1	99
			9,12,15-Octadecatrienoic acid, (Z,Z,Z)-	138419	000463-40-1	97
			9,12-Octadecadienoic acid (Z,Z)-	140137	000060-33-3	95
56	20.265	0.83	D:\DATABASE\NIST14.L			
			1-Octadecene	113633	000112-88-9	99
			1-Nonadecene	126868	018435-45-5	98
			1-Octadecene	113632	000112-88-9	97
57	20.783	0.30	D:\DATABASE\NIST14.L			
			Oleic Acid	142071	000112-80-1	56
			trans-13-Octadecenoic acid	142094	000693-71-0	46
			Oleic Acid	142072	000112-80-1	45
58	21.173	0.18	D:\DATABASE\NIST14.L			
			Ethanol, 2-(octadecyloxy)-	173451	002136-72-3	81
			Tricosane	182654	000638-67-5	60
			Nonahexacontanoic acid	276185	040710-32-5	55
59	21.431	0.22	D:\DATABASE\NIST14.L			
			Methanimidamide, N'-(4-methoxyphenyl)-N,N-dimethyl-	45790	001202-62-6	52
			Oxirane, tridecyl-	89784	018633-25-5	45
			Adenine-9-propanoic acid, .alpha.-t-butoxycarbonylamino-	179988	055387-36-5	30
60	21.714	0.28	D:\DATABASE\NIST14.L			
			cis-13-Octadecenoic acid	142083	013126-39-1	55
			Pentafluoropropionic acid, hexadecyl ester	231944	006222-07-7	53
			13-Octadecenal, (Z)-	126830	058594-45-9	50
61	21.982	0.49	D:\DATABASE\NIST14.L			
			Tetrapentacontane, 1,54-dibromo-	276082	1000156-09-4	90
			Nonahexacontanoic acid	276185	040710-32-5	60
			Octadecanal	128800	000638-66-4	56
62	22.267	0.28	D:\DATABASE\NIST14.L			

Library Search Report

Data Path : D:\MassHunter\GCMS\2\
Data File : 2020_11_23_C Nobilis_M.D
Acq On : 23 Nov 2020 16:20
Operator : NGR
Sample : Undiksa/Kimia
Misc : Melia
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
			6-Octadecenoic acid	142075	1000336-66-8	93
			1,14-Docosanediol	199531	004452-45-3	64
			8-Hexadecenal, 14-methyl-, (Z)-	113612	060609-53-2	52
63	22.792	0.65	D:\DATABASE\NIST14.L			
			Tetracosane	195669	000646-31-1	93
			Tricosane	182654	000638-67-5	93
			Eicosane	142241	000112-95-8	86
64	23.055	0.16	D:\DATABASE\NIST14.L			
			Farnesol formate	111687	917105-98-7	60
			Trifluoroacetoxy hexadecane	195150	006222-03-3	55
			Oxirane-2-carboxylic acid, 2-amino carbonyl-3-methyl-3-(1-methylethyl)-, ethyl ester	78712	002907-73-5	45
65	23.239	1.45	D:\DATABASE\NIST14.L			
			Bis(2-ethylhexyl) phthalate	233372	000117-81-7	91
			Bis(2-ethylhexyl) phthalate	233371	000117-81-7	90
			Diisooctyl phthalate	233361	000131-20-4	90
66	23.835	0.40	D:\DATABASE\NIST14.L			
			1,21-Docosadiene	165696	053057-53-7	98
			Oxirane, hexadecyl-	128814	007390-81-0	94
			Bicyclo[10.8.0]eicosane, cis-	138508	1000155-82-2	93
67	24.014	0.10	D:\DATABASE\NIST14.L			
			Methoxamine	75181	000390-28-3	35
			Bicyclo[2.2.1]heptan-2-one, 4,7,7-trimethyl-, semicarbazone	73404	024230-79-3	30
			cis-10-Heptadecenoic acid, methyl ester	142127	1000333-62-1	25
68	24.608	3.03	D:\DATABASE\NIST14.L			
			1-Penten-3-one, 4-methyl-1-phenyl-	42997	003160-32-5	55
			trans-1-Cinnamoylimidazole	63173	001138-15-4	43
			3-Butenoic acid, 2-oxo-4-phenyl-, methyl ester	55808	1000142-22-4	43
69	25.006	0.82	D:\DATABASE\NIST14.L			
			Tetracosane	195669	000646-31-1	95
			Nonahexacontanoic acid	276185	040710-32-5	91
			Tricosane	182654	000638-67-5	90
70	25.302	2.15	D:\DATABASE\NIST14.L			
			Oxirane, hexadecyl-	128814	007390-81-0	96
			Octadecanal	128800	000638-66-4	95
			(Z)-14-Tricosenyl formate	217846	077899-10-6	94
71	25.761	1.32	D:\DATABASE\NIST14.L			
			Docosane	169409	000629-97-0	96
			11-Methyltricosane	195679	027538-41-6	91
			2-Methylhexacosane	227470	001561-02-0	90

Library Search Report

Data Path : D:\MassHunter\GCMS\2\
Data File : 2020_11_23_C Nobilis_M.D
Acq On : 23 Nov 2020 16:20
Operator : NGR
Sample : Undiksa/Kimia
Misc : Melia
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
72	26.110	1.18	D:\DATABASE\NIST14.L			
			Octadecanal	128803	000638-66-4	95
			Pentadecanal-	89765	002765-11-9	94
			Eicosen-1-ol, cis-9-	155861	112248-30-3	93
73	26.607	0.51	D:\DATABASE\NIST14.L			
			Eicosane	142238	000112-95-8	95
			Eicosane	142241	000112-95-8	94
			Heptadecane, 2-methyl-	115550	001560-89-0	84

Lampiran 20. Library Koromatogram dari Isolasi Distilasi Uap Air

Library Search Report

Data Path : D:\MassHunter\GCMS\2\
Data File : 2020_11_23_C nobilis_50.D
Acq On : 23 Nov 2020 11:02
Operator : NGR
Sample : Undiksa/Kimia
Misc : Agustina
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	4.378	3.60	D:\DATABASE\NIST14.L			
			.alpha.-Pinene	16068	000080-56-8	78
			3-Carene	16028	013466-78-9	70
			(1R)-2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene	16226	007785-70-8	70
2	4.649	0.49	D:\DATABASE\NIST14.L			
			Camphene	16029	000079-92-5	97
			Bicyclo[2.2.1]heptane, 2,2-dimethyl-3-methylene-, (1S)-	16285	005794-04-7	97
			Camphene	16039	000079-92-5	96
3	5.147	8.66	D:\DATABASE\NIST14.L			
			3-Carene	16028	013466-78-9	91
			Cyclopentene, 3-isopropenyl-5,5-dimethyl-	16200	1000162-25-4	90
			Tricyclo[2.2.1.0(2,6)]heptane, 1,3,3-trimethyl-	16250	000488-97-1	90
4	5.348	4.91	D:\DATABASE\NIST14.L			
			3-Carene	16028	013466-78-9	60
			(+)-3-Carene	16050	000498-15-7	60
			.beta.-Myrcene	16065	000123-35-3	58
5	5.631	1.60	D:\DATABASE\NIST14.L			
			Bicyclo[3.1.0]hex-2-ene, 2-methyl-5-(1-methylethyl)-	16271	002867-05-2	91
			.alpha.-Phellandrene	16096	000099-83-2	87
			.alpha.-Phellandrene	16093	000099-83-2	81
6	5.862	1.41	D:\DATABASE\NIST14.L			
			Cyclohexene, 1-methyl-4-(1-methylethylidene)-	16238	000586-62-9	97
			1,3-Cyclohexadiene, 1-methyl-4-(1-methylethyl)-	16247	000099-86-5	97
			Cyclohexene, 1-methyl-4-(1-methylethylidene)-	16230	000586-62-9	97
7	6.209	22.45	D:\DATABASE\NIST14.L			
			D-Limonene	16046	005989-27-5	94
			D-Limonene	16045	005989-27-5	93
			D-Limonene	16044	005989-27-5	89
8	6.399	1.73	D:\DATABASE\NIST14.L			
			.beta.-Ocimene	16062	013877-91-3	98
			1,3,6-Octatriene, 3,7-dimethyl-, (Z)-	16175	003338-55-4	98
			1,3,7-Octatriene, 3,7-dimethyl-	16133	000502-99-8	96
9	6.601	1.86	D:\DATABASE\NIST14.L			
			.gamma.-Terpinene	16078	000099-85-4	97
			.gamma.-Terpinene	16077	000099-85-4	97
			(1R)-2,6,6-Trimethylbicyclo[3.1.1]hept-2-ene	16224	007785-70-8	93

Bahan Alam New.M Mon Nov 23 11:48:18 2020 Page: 1

Library Search Report

Data Path : D:\MassHunter\GCMS\2\
Data File : 2020_11_23_C nobilis_50.D
Acq On : 23 Nov 2020 11:02
Operator : NGR
Sample : Undiksa/Kimia
Misc : Agustina
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
10	6.757	2.74	D:\DATABASE\NIST14.L			
			Formic acid, octyl ester	31262	000112-32-3	91
			1-Octanol	13944	000111-87-5	90
			1-Octanol	13945	000111-87-5	90
11	7.106	1.45	D:\DATABASE\NIST14.L			
			2-Carene	16030	000554-61-0	97
			Cyclohexene, 1-methyl-4-(1-methylethylidene)-	16238	000586-62-9	97
			(+)-4-Carene	16052	029050-33-7	97
12	7.292	5.28	D:\DATABASE\NIST14.L			
			Linalool	27447	000078-70-6	95
			Linalool	27451	000078-70-6	83
			Tricyclo[2.2.1.0(2,6)]heptane, 1,3,3-trimethyl-	16250	000488-97-1	64
13	7.672	0.99	D:\DATABASE\NIST14.L			
			7-Oxabicyclo[4.1.0]heptane, 1-methyl-4-(1-methylethenyl)-	26136	001195-92-2	70
			2-Cyclohexen-1-ol, 1-methyl-4-(1-methylethenyl)-, trans-	26132	007212-40-0	50
			2-Cyclohexen-1-ol, 1-methyl-4-(1-methylethyl)-, cis-	27783	029803-82-5	50
14	7.800	1.39	D:\DATABASE\NIST14.L			
			2,6-Dimethyl-1,3,5,7-octatetraene, E,E-	15254	000460-01-5	97
			2,6-Dimethyl-1,3,5,7-octatetraene, E,E-	15253	000460-01-5	96
			Cyclobutene, bis(1-methylethylidene)-	15250	003642-14-6	96
15	8.156	1.07	D:\DATABASE\NIST14.L			
			6-Octenal, 3,7-dimethyl-, (R)-	27601	002385-77-5	97
			7-Octenal, 3,7-dimethyl-	27559	000141-26-4	64
			Citronellal	27474	000106-23-0	50
16	8.438	2.04	D:\DATABASE\NIST14.L			
			1-Nonanol	21671	000143-08-8	83
			Acetic acid, trichloro-, nonyl ester	147372	065611-32-7	80
			1-Decene	18385	000872-05-9	80
17	8.613	3.30	D:\DATABASE\NIST14.L			
			Terpinen-4-ol	27506	000562-74-3	94
			3-Cyclohexen-1-ol, 4-methyl-1-(1-methylethyl)-, (R)-	27776	020126-76-5	89
			Terpinen-4-ol	27498	000562-74-3	86
18	8.825	3.62	D:\DATABASE\NIST14.L			
			L-.alpha.-Terpineol	27531	010482-56-1	91
			.alpha.-Terpineol	27530	000098-55-5	90

Library Search Report

Data Path : D:\MassHunter\GCMS\2\
Data File : 2020_11_23_C nobilis_50.D
Acq On : 23 Nov 2020 11:02
Operator : NGR
Sample : Undiksa/Kimia
Misc : Agustina
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
			.alpha.-Terpineol	27529	000098-55-5	90
19	8.980	1.93	D:\DATABASE\NIST14.L			
			Decanal	29133	000112-31-2	97
			Decanal	29128	000112-31-2	97
			Decanal	29131	000112-31-2	83
20	9.335	2.46	D:\DATABASE\NIST14.L			
			Citronellol	29156	000106-22-9	98
			Citronellol	29151	000106-22-9	98
			6-Octen-1-ol, 3,7-dimethyl-, (R)-	29256	001117-61-9	97
21	9.975	2.30	D:\DATABASE\NIST14.L			
			E-11,13-Tetradecadien-1-ol	74494	1000131-00-3	97
			1-Decanol	30629	000112-30-1	91
			1-Decanol	30614	000112-30-1	91
22	10.314	0.53	D:\DATABASE\NIST14.L			
			1,4-Pentadiene	445	000591-93-5	38
			1,3-Pentadiene, (Z)-	459	001574-41-0	35
			1,2-Dimethyl cyclopropene	467	014309-32-1	35
23	10.490	0.81	D:\DATABASE\NIST14.L			
			Undecanal	39872	000112-44-7	95
			Tetradecanal	76509	000124-25-4	93
			Undecanal	39875	000112-44-7	91
24	10.656	0.26	D:\DATABASE\NIST14.L			
			2-Methoxy-4-vinylphenol	25129	007786-61-0	90
			3-Methoxyacetophenone	25123	000586-37-8	72
			Ethanone, 1-(2-hydroxy-5-methylphenyl)-	25239	001450-72-2	72
25	10.998	1.86	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
			(+)-4-Carene	16052	029050-33-7	95
26	11.762	5.18	D:\DATABASE\NIST14.L			
			Cyclohexane, 1-ethenyl-1-methyl-2,4-bis(1-methylethenyl)-, [1S-(1.alpha.,2.beta.,4.beta.)]-	68845	000515-13-9	97
			Cyclohexane, 1-ethenyl-1-methyl-2,4-bis(1-methylethenyl)-	68686	110823-68-2	91
			Cyclohexane, 1-ethenyl-1-methyl-2,4-bis(1-methylethenyl)-, (1.alpha.,2.beta.,4.beta.)-	68831	033880-83-0	86
27	12.299	1.55	D:\DATABASE\NIST14.L			
			.gamma.-Elemene	68546	029873-99-2	98

Library Search Report

Data Path : D:\MassHunter\GCMS\2\
Data File : 2020_11_23_C nobilis_50.D
Acq On : 23 Nov 2020 11:02
Operator : NGR
Sample : Undiksa/Kimia
Misc : Agustina
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
			.gamma.-Elemene	68537	029873-99-2	98
			1,5-Cyclodecadiene, 1,5-dimethyl-8-(1-methylethylidene)-, (E,E)-	68726	015423-57-1	97
28	12.623	1.41	D:\DATABASE\NIST14.L			
			Humulene	68480	006753-98-6	97
			1,4,7,-Cycloundecatriene, 1,5,9,9-tetramethyl-, Z,Z,Z-	68676	1000062-61-9	96
			Humulene	68481	006753-98-6	94
29	12.966	2.71	D:\DATABASE\NIST14.L			
			Germacrene D	68507	023986-74-5	99
			Germacrene D	68505	023986-74-5	95
			(S,1Z,6Z)-8-Isopropyl-1-methyl-5-methylenecyclodeca-1,6-diene	68715	317819-80-0	93
30	13.451	0.26	D:\DATABASE\NIST14.L			
			Naphthalene, 1,2,3,5,6,8a-hexahydro-4,7-dimethyl-1-(1-methylethyl)-, (1S-cis)-	68797	000483-76-1	97
			Naphthalene, 1,2,3,5,6,8a-hexahydro-4,7-dimethyl-1-(1-methylethyl)-, (1S-cis)-	68800	000483-76-1	96
			1-Isopropyl-4,7-dimethyl-1,2,3,5,6,8a-hexahydronaphthalene	68698	016729-01-4	96
31	13.635	0.18	D:\DATABASE\NIST14.L			
			9,12-Tetradecadien-1-ol, (Z,E)-	74499	051937-00-9	78
			6-C14H26	59850	003730-08-3	64
			8-Hexadecyne	85920	019781-86-3	64
32	13.919	0.33	D:\DATABASE\NIST14.L			
			1,5-Cyclodecadiene, 1,5-dimethyl-8-(1-methylethylidene)-, (E,E)-	68726	015423-57-1	96
			Naphthalene, 1,2,3,4,4a,5,6,8a-octahydro-4a,8-dimethyl-2-(1-methylethenyl)-, [2R-(2.alpha.,4a.alpha.,8a.beta.)]-	68904	000473-13-2	87
			.gamma.-Elemene	68540	029873-99-2	68
33	14.265	0.61	D:\DATABASE\NIST14.L			
			Globulol	85679	051371-47-2	56
			Caryophyllene oxide	83536	001139-30-6	44
			Cedran-diol, (8S,14)-	100342	062600-05-9	25
34	15.080	2.08	D:\DATABASE\NIST14.L			
			Neointermedeol	85704	005945-72-2	98
			1H-3a,7-Methanoazulene, 2,3,6,7,8,8a-hexahydro-1,4,9,9-tetramethyl-, (1.alpha.,3a.alpha.,7.alpha.,8a.beta.)-	68887	000560-32-7	87
			1H-Benzocycloheptene, 2,4a,5,6,7,8,9,9a-octahydro-3,5,5-trimethyl-9-methylene-, (4aS-cis)-	68841	003853-83-6	78

Library Search Report

Data Path : D:\MassHunter\GCMS\2\
Data File : 2020_11_23_C nobilis_50.D
Acq On : 23 Nov 2020 11:02
Operator : NGR
Sample : Undiksa/Kimia
Misc : Agustina
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
35	16.098	1.51	D:\DATABASE\NIST14.L			
			Ethyl p-methoxycinnamate	70250	001929-30-2	99
			(Z)-Ethyl 3-(4-methoxyphenyl)acrylate	70273	051507-22-3	99
			Ethyl p-methoxycinnamate	70251	024393-56-4	99
36	18.119	0.89	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	19.835	0.50	D:\DATABASE\NIST14.L			
			9-Octadecenoic acid, (E)-	142088	000112-79-8	56
			Butyl 9-tetradecenoate	142081	1000336-51-4	43
			1,2-Benzenediol, 4-(2-amino-1-hydroxypropyl)-	50772	006539-57-7	41
38	20.315	0.13	D:\DATABASE\NIST14.L			
			Eicosane	142238	000112-95-8	92
			Docosane	169408	000629-97-0	78
			Hentriacontane	252712	000630-04-6	53
39	21.175	0.12	D:\DATABASE\NIST14.L			
			Eicosane	142238	000112-95-8	93
			Tricosane	182654	000638-67-5	92
			Hentriacontane	252712	000630-04-6	53
40	22.796	0.21	D:\DATABASE\NIST14.L			
			Eicosane	142238	000112-95-8	93
			1-Chloroeicosane	175300	042217-02-7	83
			Eicosane	142241	000112-95-8	68
41	23.563	0.11	D:\DATABASE\NIST14.L			
			Eicosane	142238	000112-95-8	93
			Eicosane	142241	000112-95-8	76
			Eicosane	142239	000112-95-8	72
42	24.307	0.40	D:\DATABASE\NIST14.L			
			Eicosane	142238	000112-95-8	92
			Eicosane	142241	000112-95-8	91
			1-Chloroeicosane	175300	042217-02-7	64
43	25.018	0.76	D:\DATABASE\NIST14.L			
			Eicosane	142238	000112-95-8	93
			Eicosane	142241	000112-95-8	66
			Heneicosane, 3-methyl-	169412	006418-47-9	59
44	25.303	0.35	D:\DATABASE\NIST14.L			
			1,2-Bis(trimethylsilyl)benzene	85160	017151-09-6	42
			1,4-Bis(trimethylsilyl)benzene	85161	013183-70-5	22
			1,2-Benzenediol, 4-(2-amino-1-hydroxypropyl)-	50772	006539-57-7	20

Library Search Report

Data Path : D:\MassHunter\GCMS\2\
Data File : 2020_11_23_C nobilis_50.D
Acq On : 23 Nov 2020 11:02
Operator : NGR
Sample : Undiksa/Kimia
Misc : Agustina
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
45	25.561	0.29	D:\DATABASE\NIST14.L			
			n-Propyl 9-tetradecenoate	128648	1000336-61-7	27
			1,4-Benzenedicarboxamide, N,N'-bis (2-hydroxy-1-methyl-2-phenylethyl)	251421	068516-51-8	22
			Benzo[h]quinoline, 2,4-dimethyl-	71668	000605-67-4	18
46	25.762	0.54	D:\DATABASE\NIST14.L			
			Eicosane	142238	000112-95-8	95
			Eicosane	142241	000112-95-8	76
			Decane, 3,8-dimethyl-	40006	017312-55-9	74
47	26.053	0.68	D:\DATABASE\NIST14.L			
			Indolizine, 2-(4-methylphenyl)-	71664	007496-81-3	46
			5-Methyl-2-phenylindolizine	71653	036944-99-7	42
			Benzo[h]quinoline, 2,4-dimethyl-	71668	000605-67-4	41
48	26.615	0.46	D:\DATABASE\NIST14.L			
			Eicosane	142238	000112-95-8	95
			Eicosane	142241	000112-95-8	76
			Decane, 3,8-dimethyl-	40006	017312-55-9	74