BAB V
KESIMPULAN DAN SARAN

A. Kesimpulan

1. Perbandingan karagenan 50 : 50 merupakan basis gel terbaik karena dapt menghasilkan basis yang elastis dan tidak rapuh, sera memiliki nilai sinerensis 1,0%.
2. Konsentrasi minyak akar wangi 0,5% memiliki nilai tingkat kesukaan tertinggi yaitu 80%.
3. Minyak akar wangi dengan konsentrasi 1% dapat menahan wangi gel pengharum ruangan selama 1 bulan penyimpanan.

B. Saran

1. Saran untuk peneliti selanjutnya yaitu dapat digunakan basis yang berbeda untuk pengujian selanjutnya dan dilakukan pengujian terhadap pengaruh basis gel terhadap ketahanan wangi gel pengharum ruangan.
2. Dapat dilakukan pengkajian terhadap uji efektivitas gel pengharum ruangan minyak jeruk nipis sebagai antiserangga.

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LAMPIRAN

Lampiran 1. Hasil determinasi tanaman akar wangi dan jeruk nipis

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Nomor : 047/UN27.9.6.4/Lab/2019
H a l : Hasil Determinasi Tumbuhan
Lampiran : -

Nama Pemesan : Palupi Yuliani
NIM : 21154537A
Alamat : Program Studi S1 Farmasi Fakultas Farmasi Universitas Setia Budi Surakarta

HASIL DETERMINASI TUMBUHAN

Nama Sampel : *Chrysopogon zizanioides* (L.) Roberty
Synonym : *Andropogon zizanoides* (L.) Urban
***Vetiveria zizanoides* (L.) Nash**
Familia : Poaceae

Hasil Determinasi menurut C.A. Backer & R.C. Bakhuizen van den Brink, Jr. (1963, 1968) :
1b-2b-3b-4b-12b-13b-14b-17b-18b-19b-20b-21b-22b-23b-24b-25b-26b-27b-799b-800b-801b-802a-803b-804b-805c-806b-807a-808a_____ **203. Poaceae**
1b-10b-11b-12b-13b-14a-20a-21b-57b-72b-74a_____ **97. *Chrysopogon***
1_____ ***Chrysopogon zizanioides* (L.) Roberty**

Deskripsi Tumbuhan :
Habitus : terna, menahun, tumbuh tegak, tinggi 0.5-1.25 m. Rimpang : menjalar, tebal dan berdaging, berbentuk silindris sampai jorong atau tidak beraturan, diameter 2-8 mm, bercabang-cabang atau tidak, bagian luar permukaanya tidak rata, berkerut, warnanya putih keabu-abuan, bagian dalamnya berwarna putih hingga kuning muda, baunya aromatik. Akar : melekat pada rimpang, tipe akar serabut, berwarna putih hingga kuning kotor atau coklat kekuningan, beraroma sangat wangi. Batang : batang sejati pendek, di dalam tanah, membentuk rimpang; batang semu berada di atas tanah, tumbuh tegak, lunak, dibentuk oleh kumpulan pelepah daun, pangkal batang putih kehijauan. Daun : tunggal, tidak lengkap, hanya ada helaian daun dan pelepah daun, berseling hingga tersebar, tersusun sangat rapat hingga membentuk roset akar, helaian daun berbentuk sempit memanjang hingga garis, panjang 50-120 cm, lebar 0.5-1 cm, berwarna hijau muda atau hijau tua atau hijau keputihan, ujung sangat runcing atau meruncing, tepi rata, pangkal tumpul atau agak runcing hingga runcing, pertulangan daun sejajar, permukaan daun gundul hingga berambut, kasar, lentur hingga kaku; pelepah daun berwarna hijau muda hingga hijau tua, panjang 10-20 cm. Bunga : majemuk bulir yang tersusun dalam karangan malai, terletak di ujung batang, panjang 15-40 cm; bunga berwarna hijau atau hijau keunguan; benang sari 3, kepala sari berwarna jingga, panjang 2 mm; putik 1, kepala putik ungu. Buah : berupa buah kering yang tidak pecah pada saat masak, tipe buah padi, pemukaan berduri dan berbulu, bentuk bulat telur memanjang-gasing, putih kotor. Biji : bijinya kecil-kecil, berwarna hitam.

Surakarta, 1 Maret 2019

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NIM : 21154537A
Alamat : Program Studi S1 Farmasi Fakultas Farmasi Universitas Setia Budi Surakarta

HASIL DETERMINASI TUMBUHAN

Nama Sampel : *Citrus aurantifolia* (Christm.) Swingle
Familia : Rutaceae

Hasil Determinasi menurut C.A. Backer & R.C. Bakhuizen van den Brink, Jr. (1963,1965):
1b-2b-3b-4b-12b-13b-14b-17b-18b-19b-20b-21b-22b-23b-24b-25b-26b-27a-28b-29b-30b-31a-32a-33a-34a-35a-36d-37b-38b-39b-41b-42b-44b-45b-46e-50b-51b-53b-54b-56b-57b-58b-59d-72b-73b-74a-75b-76a-77a-78b-103c-104b-106b-107a-108b-109b-134a-135b-136b-137a-138c-139b-140a-141b-142b-143b-147b-156b-157a-158b-160a-161a_____ **133. Rutaceae**
1b-18b-19b-20a-21a_____ **23. *Citrus***
1b-4b-5b-6b-7a-8b_____ ***Citrus aurantifolia* (Christm.) Swingle**

Deskripsi Tumbuhan :
Habitus : pohon, menahun, tumbuh tegak, tinggi 0.5-3.5 m. Akar : tunggang, bercabang, putih kotor atau putih kekuningan. Batang : bentuk bulat, berkayu ulet, tumbuh tegak, bercabang banyak, warna abu-abu kusam, permukaan halus atau berduri, panjang duri 0.3-1.2 cm; ranting tidak berduri, permukaan gundul dan kusam. Daun : majemuk menjari beranak daun satu, tersebar, tangkai daun ke arah ujung kadang-kadang bersayap sedikit, panjang 0.5-2.5 cm, tepi sayap (alae) beringgit melekuk ke dalam; helaian daun bulat telur elliptis atau bulat telur memanjang, panjang 2.5-9 cm, lebar 1.5-5.5 cm, pangkal daun bulat, tepi daun beringgit, ujung daun tumpul dan melekuk ke dalam sedikit, permukaan daun mengkilat, daging daun seperti kertas, pertulangan daun menyirip, permukaan atas hijau tua, permukaan bawah hijau muda; panjang tangkai daun 0.5-2.5 cm, lebar 1.5-4.5 mm. Bunga : tunggal atau berkelompok hingga 7, di ketiak daun, diameter 1.5-2.5 cm; kelopak bunga berbentuk seperti mangkok, berbagi 4-5, berbentuk segitiga melebar, diameter 0.4-0.7 cm, berwarna putih kekuningan, permukaan sedikit berbulu; daun mahkota bunga berjumlah 4-5, berbentuk bulat telur atau memanjang atau lanset, panjang 7-12.5 mm, lebar 2.5-5 mm, ujungnya meruncing hingga tumpul, berwarna putih; benang sari 18-25, panjang tangkai sari 2-3 mm, kepala sari berbentuk memanjang; tangkai putik silindris putih kekuningan, panjang 3 mm, bakal buah berbentuk bulat. Buah : buah sejati tunggal berdaging jeruk (hesperedium), bentuk bola, permukaan licin, warna hijau muda hingga kuning, diameter 3.5-5 cm, tebal kulit buah 0.2-0.5 cm, daging buah kuning kehijauan. Biji : bulat telur sungsang, permukaan licin, putih kekuningan.

Surakarta, 1 Maret 2019

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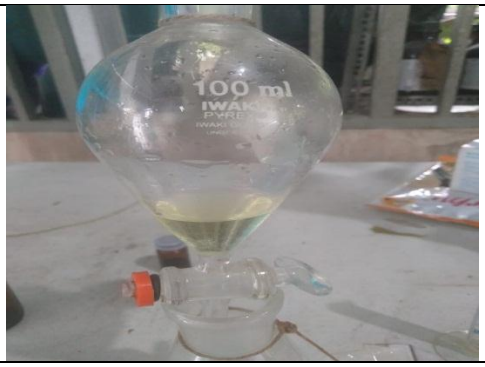
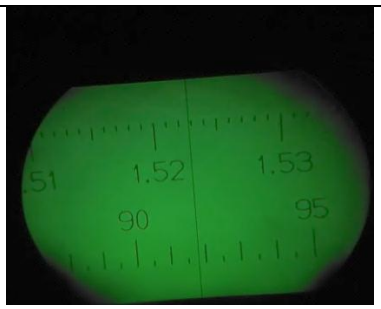
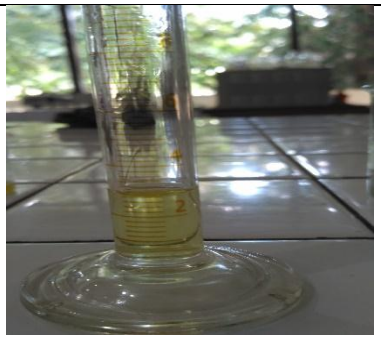
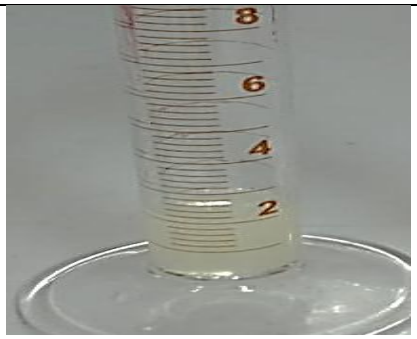
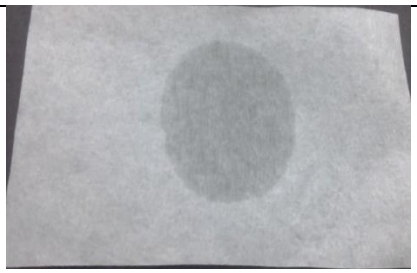
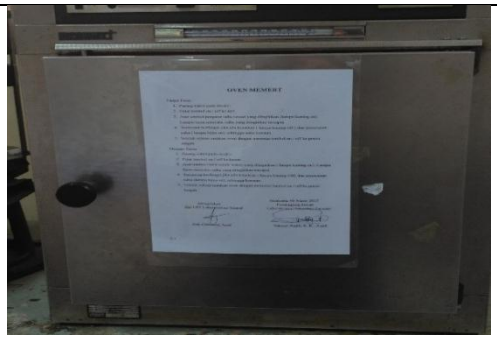
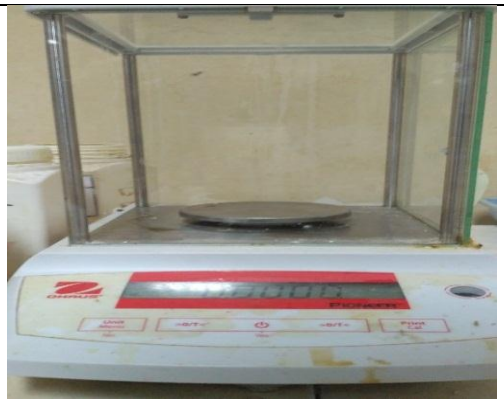
Lampiran 2. Gambar bahan dan proses pembuatan minyak akar wangi dan minyak jeruk nipis.

Akar wangi	Jeruk nipis
	
	

Lampiran 3. Gambar pengujian mutu fisik minyak atsiri.

Parameter	Minyak akar wangi	Minyak jeruk nipis
Indeks bias		
Kelarutan dalam etanol 70 %		
Identifikasi minyak atsir (kertas saring)		
Penetesan dalam akuadest		

Lampiran 4. Gambar alat penelitian

Nama alat	Gambar
Oven	
Timbangan digital	
Refraktometer	
Alat destilasi uap	

Lampiran 5. Gambar basis gel pengharum ruangan dan gel pengharum ruangan.

1. Basis gel pengharum ruangan

F1 F2 F3 F4 F5

2. Gel pengharum ruangan

F1 F2 F3 F4 F5 (-)

Lampiran 6. Perhitungan rendemen dan indeks bias minyak akar wangi dan minyak jeruk nipi, Serta nilai sinerensis basis gel.

a. Rendemen

Tanaman	Berat	Minyak yang dihasilkan	Rendemen
Akar wangi kering	400 gram	4,5 ml	1,12%
Jeruk nipis segar	12 kg	25 ml	0,42%

Perhitungan % rendemen $= \frac{volume\ minyak}{bobot\ sampel}$ x 100%

Minyak akar wangi $= \frac{4{,}5ml}{400\ g}$ x 100 % = 1,12 %

Minyak jeruk nipis $= \frac{25ml}{12000\ g}$ x 100 % = 0,42 %

b. Indeks bias

Minyak atsiri	Nilai indeks bias	
	Hasil	Teoritis
Akar wangi	1,523	1,5200 -1,5280 (Guenther 1990)
Jeruk nipis	1,481	1,4750-1,4770 (Wahyudi 2017)

1. Minyak akar wangi

Suhu percobaan (tp) = 30^0C

Suhu standart (ts) = 20^0C

Indeks bias suhu percobaan = 1,523

Faktor koreksi = 0,00045

Indeks bias suhu standart = np + 0,00045 (tp-ts)

= 1,523 + 0,00045 (30-20)

= 1,5275

2. Minyak jeruk nipis

Suhu percobaan (tp) = 30^0C

Suhu standart (ts) = 20^0C

Indeks bias suhu percobaan = 1,481

Faktor koreksi = 0,00045

Indeks bias suhu standart = np + 0,00045 (tp-ts)

= 1,481 + 0,00045 (30-20)

= 1,4855

3. Nilai sinerensis basis gel

Rumus = $\frac{Berat\ awal - berat\ akhir}{berat\ awal}$ x 100 %

F1 = $\frac{22,012-21,832}{22,012}$ x 100 % = 1,5 %

F2 = $\frac{23,954,23,713}{23,954}$ x 100 % = 1,0 %

F3 = $\frac{23,354-23,126}{23.354}$ x 100 % = 1,0 %

F4 = $\frac{22,779-22,569}{22,779}$ x 100 % = 0,9 %

F5 = $\frac{24,623-24,420}{24,623}$ x 100 % = 0,8 %

Lampiran 7. Perhitungan kesukaan wangi.

1. Tabel uji kesukaan

f1	f2	f3	f4	Kontrol (-)	Kontrol +
4	4	4	3	4	3
4	4	3	3	4	4
4	4	3	3	5	5
4	4	3	3	4	4
3	4	3	4	5	3
2	4	3	5	4	5
5	4	5	3	4	5
2	3	3	2	4	5
2	3	4	4	4	5
4	4	4	4	4	4
3	4	3	2	2	2
4	4	4	3	3	5
1	4	4	3	4	4
5	4	4	3	4	5
5	4	4	3	4	5
4	4	3	4	4	4
4	4	4	3	4	5
4	4	3	4	4	4
3	2	4	5	4	2
5	5	4	4	4	3
4	4	3	4	3	5
4	4	4	3	3	3
5	4	4	4	3	2
4	4	4	3	4	4
4	3	3	3	3	4
3.72	3.84	3.6	3.4	3.8	4

2. Uji pendekatan deskriptif statistik frekuensi

Frequency Table

formula 1

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	tidak suka	1	4.0	4.0	4.0
	kurang suka	3	12.0	12.0	16.0
	cukup suka	3	12.0	12.0	28.0
	suka	13	52.0	52.0	80.0
	sangat suka	5	20.0	20.0	100.0
	Total	25	100.0	100.0	

formula 2

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	kurang suka	1	4.0	4.0	4.0
	cukup suka	3	12.0	12.0	16.0
	suka	20	80.0	80.0	96.0
	sangat suka	1	4.0	4.0	100.0
	Total	25	100.0	100.0	

formula 3

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	cukup suka	11	44.0	44.0	44.0
	suka	13	52.0	52.0	96.0
	sangat suka	1	4.0	4.0	100.0
	Total	25	100.0	100.0	

formula 4

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	kurang suka	2	8.0	8.0	8.0
	cukup suka	13	52.0	52.0	60.0
	suka	8	32.0	32.0	92.0
	sangat suka	2	8.0	8.0	100.0
	Total	25	100.0	100.0	

kontrol (-)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	kurang suka	1	4.0	4.0	4.0
	cukup suka	5	20.0	20.0	24.0
	suka	17	68.0	68.0	92.0
	sangat suka	2	8.0	8.0	100.0
	Total	25	100.0	100.0	

kontrol (+)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	kurang suka	3	12.0	12.0	12.0
	cukup suka	4	16.0	16.0	28.0
	suka	8	32.0	32.0	60.0
	sangat suka	10	40.0	40.0	100.0
	Total	25	100.0	100.0	

Lampiran 8. Data dan perhitungan uji penguapan zat cair.

- **Perhitungan susut bobot**

Rumus = $\frac{bobot\ minggu\ ke{-}n}{bobot\ awal}$

1. Ruangan AC

Formula	Susut bobot			
	H-7	**H14**	**H21**	**H28**
F1	$\frac{21,385}{23,673}$ x 100 = 90,33 %	$\frac{19,845}{23,673}$ x 100 = 83,83 %	$\frac{18,464}{23,673}$ x 100 = 78,00 %	$\frac{16,463}{23,673}$ x 100 = 69,54 %
F2	$\frac{19,067}{20,917}$ x 100 = 91,14 %	$\frac{18,232}{20,917}$ x 100 = 87,16 %	$\frac{16,850}{20,917}$ x 100 = 80,56 %	$\frac{14,720}{20,917}$ x 100 = 70,37 %
F3	$\frac{20,058}{21,782}$ x 100 = 92,08 %	$\frac{19,060}{21,782}$ x 100 = 87,50 %	$\frac{17,751}{21,782}$ x 100 = 81,49 %	$\frac{16,248}{21.782}$ x 100 = 74,59 %
F4	$\frac{21,085}{22,630}$ x 100 = 93,17 %	$\frac{20,101}{22,630}$ x 100 = 88,824%	$\frac{19,030}{22,630}$ x 100 = 84,090 %	$\frac{17,536}{22,630}$ x 100 = 77,490 %
F5 (-)	$\frac{18,540}{20,680}$ x 100 = 88,99 %	$\frac{17,030}{20,680}$ x 100 = 82,850 %	$\frac{16,050}{20,680}$ x 100 = 77,62 %	$\frac{13,110}{20,680}$ x 100 = 63,39 %
F6 (+)	$\frac{27,114}{39,623}$ x 100 = 68,42 %	$\frac{22,700}{39,623}$ x 100 = 56,860 %	$\frac{22,152}{39,623}$ x 100 = 50,86 %	$\frac{17,875}{39,623}$ x 100 = 45,11 %

2. Ruangan Kipas angin

Formula	Susut bobot			
	H-7	**H14**	**H21**	**H28**
F1	$\frac{19,062}{22,860}$ x 100 = 83,38 %	$\frac{17,886}{22,860}$ x 100 = 78,24 %	$\frac{15,359}{22,860}$ x 100 = 67,97 %	$\frac{14,236}{23,673}$ x 100 = 62,27 %
F2	$\frac{17,920}{20,437}$ x 100 = 83,59 %	$\frac{16,940}{20,437}$ x 100 = 79,02 %	$\frac{15,027}{20,437}$ x 100 = 70,10 %	$\frac{14,229}{20,917}$ x 100 = 66,37 %
F3	$\frac{20,002}{22,507}$ x 100 = 88,87 %	$\frac{19,287}{22,507}$ x 100 = 85,69 %	$\frac{17,024}{22,507}$ x 100 = 75,64 %	$\frac{15,146}{21.782}$ x 100 = 69,53 %
F4	$\frac{21,014}{23,169}$ x 100 = 90,70 %	$\frac{19,606}{23,169}$ x 100 = 85,38 %	$\frac{18,449}{23,169}$ x 100 = 79,62 %	$\frac{17,536}{22,630}$ x 100 = 77,490 %
F5 (-)	$\frac{17,851}{22,270}$ x 100 = 80,152 %	$\frac{16,781}{22,270}$ x 100 = 75,35 %	$\frac{14,436}{22,270}$ x 100 = 64,82 %	$\frac{12,808}{20,680}$ x 100 = 57,51 %
F6 (+)	$\frac{24,622}{39,747}$ x 100 = 61,95 %	$\frac{19,611}{39,747}$ x 100 = 49,34 %	$\frac{17,224}{39,747}$ x 100 = 43,33 %	$\frac{14,231}{39,747}$ x 100 = 35,80 %

3. Ruangan biasa

Formula	Susut bobot			
	H-7	**H14**	**H21**	**H28**
F1	$\frac{19,721}{22,354}$ x 100 = 88,22 %	$\frac{18,102}{22,354}$ x 100 = 80,98 %	$\frac{16,542}{22,354}$ x 100 = 74,0 %	$\frac{14,985}{22,354}$ x 100 = 67,03 %
F2	$\frac{19,499}{21,362}$ x 100 = 91,28 %	$\frac{18,387}{21,362}$ x 100 = 86,07 %	$\frac{16,931}{21,362}$ x 100 = 79,26 %	$\frac{15,133}{21,362}$ x 100 = 70,84 %
F3	$\frac{19,802}{20,860}$ x 100 = 94,93 %	$\frac{19,104}{20,860}$ x 100 = 91,58 %	$\frac{17,830}{20,860}$ x 100 = 85,87 %	$\frac{16,924}{20,860}$ x 100 = 81,13 %
F4	$\frac{21,997}{22,834}$ x 100 = 96,33 %	$\frac{20,935}{22,834}$ x 100 = 91,68 %	$\frac{19,606}{22,834}$ x 100 = 85,86 %	$\frac{18,802}{22,834}$ x 100 = 82,34 %
F5 (-)	$\frac{17,054}{19,711}$ x 100 = 86,52 %	$\frac{15,753}{19,711}$ x 100 = 79,92 %	$\frac{14,132}{19,711}$ x 100 = 83,66 %	$\frac{13,210}{19,711}$ x 100 = 67,02 %
F6 (+)	$\frac{30,507}{39,671}$ x 100 = 76,90 %	$\frac{24,996}{39,671}$ x 100 = 62,93 %	$\frac{21,070}{39,671}$ x 100 = 53,11 %	$\frac{19,020}{39,671}$ x 100 = 47,96 %

- **Total penguapan zat cair**

Rumus $= \frac{M0-M4}{M0}$ x 100 %

Formula	Total penguapan		
	Ruang AC	**Ruang kipas angin**	**Ruang biasa**
F1	$\frac{23,673-16,463}{23,673}$ x 100% = 30,45 %	$\frac{22,860-14,236}{22,860}$ x 100% = 37,72 %	$\frac{23,359-14,985}{22,359}$ x 100 % = 33,96 %
F2	$\frac{20,913-14,720}{20,913}$ x 100 % = 29,63 %	$\frac{21,437-14,229}{21,437}$ x 100% =33,62 %	$\frac{21,362-15,133}{21,362}$ x 100 % = 29,10 %
F3	$\frac{21,782-16,248}{21,782}$ x 100% = 25,43 %	$\frac{22,507-17,410}{22,507}$ x 100% = 22,65 %	$\frac{20,860-16,925}{20,860}$ x 100% = 13,10 %
F4	$\frac{22,103-17,536}{22,103}$x 100% = 22,73 %	$\frac{23,169-17,572}{23,169}$ x 100% = 24,16 %	$\frac{22,834-18,802}{22,834}$ x 100% = 17,65 %
F5 (-)	$\frac{20,680-13,110}{20,680}$ x 100% = 36,60 %	$\frac{22,270-12,808}{22,270}$ x 100% = 42,49 %	$\frac{19,711-13,210}{19,711}$ x 100% = 32,98 %
F6 (+)	$\frac{38,628-17,875}{38,628}$ x 100% = 54,89 %	$\frac{39,747-14,231}{39,747}$ x 100% = 64,20 %	$\frac{39,671-19,028}{39,671}$ x 100% = 52,04 %

Lampiran 9. Data dan perhitungan uji ketahanan wangi

1. Minggu 1 (Hari ke-7)

a. Ruangan Biasa

- Formula 1

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{101}{25}$

= 4,04

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{5(5 - 4{,}04)^2 + 16(4 - 4{,}04)^2 + 4(3 - 4{,}04)^2 + 4(2 - 4{,}04)^2}{25}$$

$= \frac{4{,}608 + 0{,}0256 + 4{,}3264}{25}$

= 0,3584

$S = \sqrt{S^2}$

$= \sqrt{0{,}3584}$

= 0,5987

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(4{,}04 - 1{,}96 \text{ x } 0{,}5987/\sqrt{25})) \leq \mu \leq (4{,}04 + (1{,}96 \text{ x } 0{,}5987/\sqrt{25}$

P $(4{,}04 - 0{,}23) \leq \mu \leq (4{,}04 + 0{,}23)$

P $(3{,}81 \leq \mu \leq 4{,}27$

P = 4 (wangi)

- Formula 2

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{106}{25}$

= 4,24

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{6(5-4{,}24)^2 + 19(4-4{,}24)^2}{25}$$

$$= \frac{3{,}4656 + 1{,}0944}{25}$$

$$= 0{,}1824$$

$$S = \sqrt{S^2}$$

$$= \sqrt{0{,}1824}$$

$$= 0{,}4271$$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(4{,}24 - 1{,}93 \text{ x } 0{,}4271/\sqrt{25})) \leq \mu \leq (4{,}24 + (1{,}96 \text{ x } 0{,}4271/\sqrt{25}$

P $(4{,}24 - 0{,}17) \leq \mu \leq (4{,}24 + 0{,}17)$

P $(4{,}07 \leq \mu \leq 4{,}41)$

P = 4 (wangi)

- Formula 3

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{108}{25}$$

$$= 4{,}32$$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{8(5-4{,}32)^2 + 17(4-4{,}32)^2}{25}$$

$$= \frac{3{,}6992 + 1{,}7408}{25}$$

$$= 0{,}2176$$

$$S = \sqrt{S^2}$$

$$= \sqrt{0{,}2176}$$

$$= 0{,}4665$$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(4{,}32 - 1{,}93 \text{ x } 0{,}4665/\sqrt{25})) \leq \mu \leq (4{,}32 + (1{,}96 \text{ x } 0{,}4665/\sqrt{25}$

P $(4{,}32 - 0{,}18) \leq \mu \leq (4{,}32 + 0{,}18)$

P (4,1 ≤ μ ≤ 4,5)

P = 4 (wangi)

- Formula 4

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{107}{25}$

= 4,28

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{5(5 - 4{,}28)^2 + 16(4 - 4{,}28)^2 + 1(3 - 4{,}28)^2}{25}$$

$= \frac{4{,}1472 + 1{,}2544 + 1{,}6384}{25}$

= 0,2816

$S = \sqrt{S^2}$

$= \sqrt{0{,}2816}$

= 0,5307

$P(\bar{X}$ – (1,96 x s/$\sqrt{n}$)) ≤ μ ≤ $P(\bar{X}$ + (1,96 x s/$\sqrt{n}$) = 95%

P (4,28 – 1,93 x 0,5307/$\sqrt{25}$)) ≤ μ ≤ (4,28 + (1,96 x 0,5307/$\sqrt{25}$

P (4,28 – 0,21) ≤ μ ≤ (4,28 + 0,21)

P (4,1 ≤ μ ≤ 4,5

P = 4 (wangi)

- Formula 5 (kontrol-)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{83}{25}$

= 3,32

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{10(4-3{,}32)^2 + 13(3-43{,}32)^2 + 2(2-3{,}32)^2}{25}$$

$$= \frac{4{,}624 + 1{,}3312 + 3{,}4848}{25}$$

$= 0{,}3776$

$S = \sqrt{S^2}$

$= \sqrt{0{,}3776}$

$= 0{,}6145$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(3{,}32 - 1{,}93 \text{ x } 0{,}6145/\sqrt{25})) \leq \mu \leq (3{,}32 + (1{,}96 \text{ x } 0{,}6145/\sqrt{25}$

P $(3{,}32 - 0{,}24) \leq \mu \leq (3{,}32 + 0{,}24)$

P $(3{,}1 \leq \mu \leq 3{,}6$

P = 3 (agak wangi)

- Formula 6 (kontrol +)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{121}{25}$

$= 4{,}84$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{21(5-4{,}84)^2 + 4(4-4{,}84)^2}{25}$$

$$= \frac{0{,}5376 + 2{,}8224}{25}$$

$= 0{,}1344$

$S = \sqrt{S^2}$

$= \sqrt{0{,}1344}$

$= 0{,}3666$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(4{,}84 - 1{,}93 \text{ x } 0{,}3666/\sqrt{25})) \leq \mu \leq (4{,}84 + (1{,}96 \text{ x } 0{,}3666/\sqrt{25}$

P $(3{,}84 - 0{,}14) \leq \mu \leq (4{,}84 + 0{,}14)$

P (4,3 ≤ μ ≤ 4,6

P = 4 (wangi).

b. Ruangan kipas angin

- Formula 1

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{95}{25}$$

$$= 3,8$$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{3(5 - 3,8)^2 + 15(4 - 3,8)^2 + 6(3 - 3,8)^2 + 1(2 - 3,8)^2}{25}$$

$$= \frac{4,320 + 0,600 + 3,840 + 3,240}{25}$$

$$= 0,480$$

$$S = \sqrt{S^2}$$

$$= \sqrt{0,480}$$

$$= 0,6928$$

$P(\bar{X}$ – (1,96 x s/$\sqrt{n}$)) ≤ μ ≤ $P(\bar{X}$ + (1,96 x s/$\sqrt{n}$) = 95%

P (3,8 – 1,93 x 0,6928/$\sqrt{25}$)) ≤ μ ≤ (3,8 + (1,96 x 0,6928/$\sqrt{25}$

P (3,8 – 0,26) ≤ μ ≤ (3,8 + 0,26)

P (3.5 ≤ μ ≤ 4,1

P = 4(Wangi)

- Formula 2

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{99}{25}$$

$$= 3,96$$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$= \frac{6(5-3{,}96)^2 + 13(4-3{,}96)^2 + 5(3-3{,}96)^2 + 1(2-3{,}96)^2 + 1(1-3{,}72)^2}{25}$$

$$= \frac{6{,}4896 + + 0{,}0208 + 4{,}608 + 3{,}8416}{25}$$

= 0,5984

$S = \sqrt{S^2}$

$= \sqrt{0{,}5984}$

= 0,7736

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(3{,}96 - 1{,}93 \text{ x } 0{,}7736/\sqrt{25})) \leq \mu \leq (3{,}96 + (1{,}96 \text{ x } 0{,}7736/\sqrt{25}$

P $(3{,}96 - 0{,}30) \leq \mu \leq (3{,}96 + 0{,}30)$

P $(3.6 \leq \mu \leq 4{,}3$

P = 4(Wangi)

- Formula 3

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{101}{25}$$

= 4,04

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$= \frac{5(5-4{,}04)^2 + 16(4-4{,}04)^2 + 2(3-4{,}04)^2}{25}$$

$$= \frac{4{,}608 + 0{,}0256 + 4{,}3264}{25}$$

= 0,3584

$S = \sqrt{S^2}$

$= \sqrt{0{,}3584}$

= 0,5987

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(4{,}04 - 1{,}93 \text{ x } 0{,}5987/\sqrt{25})) \leq \mu \leq (4{,}04 + (1{,}96 \text{ x } 0{,}5987/\sqrt{25}$

P $(4{,}04 - 0{,}23) \leq \mu \leq (4{,}04 + 0{,}23)$

P $(3.9 \leq \mu \leq 4{,}3$

P = 4(Wangi)

- Formula 4

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{107}{25}$

= 4,28

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$= \frac{9(5 - 4{,}28)^2 + 14(4 - 4{,}28)^2 + 2(3 - 4{,}28)^2}{25}$$

$= \frac{4{,}6656 + 1{,}0976 + 3{,}2768}{25}$

= 0,3616

$S = \sqrt{S^2}$

$= \sqrt{0{,}3616}$

= 0,6013

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P (4,28– 1,93 x 0,6013/$\sqrt{25}$)) ≤ μ ≤ (4,28 + (1,96 x 0,6013/$\sqrt{25}$

P (4,04 – 0,24) ≤ μ ≤ (4,04 + 0,24)

P (4,0 ≤ μ ≤ 4,5

P = 4(Wangi)

- Formula 5 (kontrol -)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{69}{25}$

= 2,76

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$S^2 = \frac{4(4 - 2{,}76)^2 + 14(3 - 2{,}76)^2 + 4(2 - 2{,}76)^2 + 3(1 - 2{,}76)^2}{25}$$

$= \frac{6{,}1504 + 0{,}8064 + 2{,}3104 + 9{,}2928}{25}$

= 0,3824

$S = \sqrt{S^2}$

$= \sqrt{0{,}3824}$

= 0,6184

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P (2,76– 1,93 x 0,6184/$\sqrt{25}$)) ≤ μ ≤ (2,76 + (1,96 x 0,6184/$\sqrt{25}$

P (2,76 – 0,24) ≤ μ ≤ (2,76 + 0,24)

P (2,5 ≤ μ ≤ 3,0

P = 3(Agak Wangi)

- Formula 6 (kontrol +)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{120}{25}$

= 4,80

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$S^2 = \frac{20(5 - 4{,}80)^2 + 5(4 - 4{,}80)^2}{25}$$

$= \frac{0{,}80 + 3{,}20}{25}$

= 0,16

$S = \sqrt{S^2}$

$= \sqrt{0{,}16}$

= 0,4000

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P (4,80– 1,93 x 0,4000/$\sqrt{25}$)) ≤ μ ≤ (4,80 + (1,96 x 0,4000/$\sqrt{25}$

P (4,80 – 0,16) ≤ μ ≤ (4,80 + 0,16)

P (4,6 ≤ μ ≤ 5)

P = 5 (sangat wangi)

c. Ruangan AC

- Formula 1

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{103}{25}$

$= 4{,}12$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{5(5 - 4{,}12)^2 + 18(4 - 4{,}12)^2 + 2(3 - 4{,}12)^2}{25}$$

$= \frac{3{,}872 + 0{,}2592 + 2{,}5088}{25}$

$= 0{,}2656$

$S = \sqrt{S^2}$

$= \sqrt{0{,}2656}$

$= 0{,}5154$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(4{,}12 - 1{,}93 \text{ x } 0{,}5154/\sqrt{25})) \leq \mu \leq (4{,}12 + (1{,}96 \text{ x } 0{,}5154/\sqrt{25}$

P $(4{,}12 - 0{,}20) \leq \mu \leq (4{,}12 + 0{,}20)$

P $(3{,}9 \leq \mu \leq 4{,}3$

P = 4(Wangi)

- Formula 2

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{108}{25}$

$= 4{,}32$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{8(5 - 4{,}32)^2 + 17(4 - 4{,}32)^2}{25}$$

$= \frac{3{,}6992 + 1{,}7408}{25}$

$= 0{,}2176$

$S = \sqrt{S^2}$

$= \sqrt{0{,}2176}$

$= 0{,}4665$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(4{,}32 - 1{,}93 \text{ x } 0{,}4665/\sqrt{25})) \leq \mu \leq (4{,}32 + (1{,}96 \text{ x } 0{,}4665/\sqrt{25}$

P $(4{,}32 - 0{,}18) \leq \mu \leq (4{,}12 + 0{,}18)$

P $(4{,}1 \leq \mu \leq 4{,}5)$

P = 4(Wangi)

- Formula 3

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{103}{25}$

$= 4{,}12$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{4(5 - 4{,}12)^2 + 20(4 - 4{,}12)^2 + 1(3 - 4{,}12)^2}{25}$$

$= \frac{3{,}0976 + 0{,}2880 + 1{,}2544}{25}$

$= 0{,}1856$

$S = \sqrt{S^2}$

$= \sqrt{0{,}1856}$

$= 0{,}4308$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(4{,}12 - 1{,}96 \text{ x } 0{,}4308/\sqrt{25})) \leq \mu \leq (4{,}12 + (1{,}96 \text{ x } 0{,}4308/\sqrt{25}$

P $(4{,}12 - 0{,}17) \leq \mu \leq (4{,}12 + 0{,}17)$

P $(3{,}9 \leq \mu \leq 4{,}3)$

P = 4(Wangi)

- Formula 4

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{113}{25}$

$= 4{,}52$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{13(5 - 4{,}52)^2 + 12(4 - 4{,}52)^2}{25}$$

$= \frac{2{,}9952 + 3{,}2448}{25}$

$= 0{,}2496$

$S = \sqrt{S^2}$

$= \sqrt{0{,}2496}$

$= 0{,}4996$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(4{,}52 - 1{,}96 \text{ x } 0{,}4996/\sqrt{25})) \leq \mu \leq (4{,}52 + (1{,}96 \text{ x } 0{,}4996/\sqrt{25}$

P $(4{,}52 - 0{,}20) \leq \mu \leq (4{,}12 + 0{,}20)$

P $(4{,}3 \leq \mu \leq 4{,}7)$

P = 4(Wangi)

- Formula 5 (kontrol -)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{85}{25}$

$= 3{,}40$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{13(5 - 3{,}40)^2 + 9(4 - 3{,}40)^2 + 3(3 - 3{,}40)^2}{25}$$

$= \frac{4{,}680 + 1{,}440 + 5{,}880}{25}$

$= 0{,}480$

$S = \sqrt{S^2}$

$= \sqrt{,480}$

$= 0{,}6928$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(3{,}40 - 1{,}96 \text{ x } 0{,}6928/\sqrt{25})) \leq \mu \leq (3{,}40 + (1{,}96 \text{ x } 0{,}6928/\sqrt{25}$

P $(3{,}40 - 0{,}27) \leq \mu \leq (3{,}40 + 0{,}27)$

P $(3{,}1 \leq \mu \leq 3{,}7)$

P = 3(Agak wangi)

- Formula 6 (kontrol +)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{124}{25}$$

$$= 4{,}49$$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{24(5 - 4.49)^2 + 1(4 - 4{,}49)^2}{25}$$

$$= \frac{0{,}0384 + 0{,}9216}{25}$$

$$= 0{,}0384$$

$$S = \sqrt{S^2}$$

$$= \sqrt{0{,}0384}$$

$$= 0{,}1960$$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(4{,}49 - 1{,}96 \text{ x } 0{,}1960/\sqrt{25})) \leq \mu \leq (4{,}49 + (1{,}96 \text{ x } 0{,}1960/\sqrt{25}$

P $(4{,}49 - 0{,}08) \leq \mu \leq (4{,}49 + 0{,}08)$

P $(4{,}9 \leq \mu \leq 5{,}0)$

P= 5 (Sangat wangi)

2. Minggu ke 2 (hari ke-14)
   a. Ruangan AC

- Formula 1

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{80}{25}$$

= 3,20

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{5(5 - 3{,}20)^2 + 20(4 - 3{,}20)^2}{25}$$

$$= \frac{16{,}20 + 12{,}8}{25}$$

= 1,16

S = $\sqrt{S^2}$

= $\sqrt{1{,}16}$

= 1,0770

$P(\bar{X}$ – (1,96 x s/$\sqrt{n}$)) ≤ μ ≤ $P(\bar{X}$ + (1,96 x s/$\sqrt{n}$) = 95%

P (3,20– 1,93 x 1,0770/$\sqrt{25}$)) ≤ μ ≤ (4,12 + (1,96 x 1,0770/$\sqrt{25}$

P (3,20 – 0,42) ≤ μ ≤ (4,12 + 0,42)

P (2,8 ≤ μ ≤ 3,6

P = 3(Agak Wangi)

- Formula 2

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{88}{25}$$

= 3,52

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{13(4 - 3{,}52)^2 + 12(3 - 3{,}52)^2}{25}$$

$$= \frac{2{,}9952 + 3{,}2448}{25}$$

= 0,2496

S = $\sqrt{S^2}$

= $\sqrt{0{,}2496}$

= 0,4996

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(3{,}52 - 1{,}93 \text{ x } 0{,}4996/\sqrt{25})) \leq \mu \leq (3{,}52 + (1{,}96 \text{ x } 0{,}4996/\sqrt{25}$

P $(3{,}52 - 0{,}20) \leq \mu \leq (3{,}52 + 0{,}20)$

P $(3{,}3 \leq \mu \leq 3{,}7)$

P = 3(Agak Wangi)

- Formula 3

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{96}{25}$$

$$= 3{,}84$$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{21(4 - 3{,}84)^2 + 4(3 - 3{,}84)^2}{25}$$

$$= \frac{0{,}5376 + 2{,}8224}{25}$$

$$= 0{,}1344$$

$$S = \sqrt{S^2}$$

$$= \sqrt{0{,}1344}$$

$$= 0{,}3666$$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(3{,}84 - 1{,}96 \text{ x } 0{,}3666/\sqrt{25})) \leq \mu \leq (3{,}84 + (1{,}96 \text{ x } 0{,}3666/\sqrt{25}$

P $(3{,}84 - 0{,}14) \leq \mu \leq (3{,}84 + 0{,}14)$

P $(3{,}7 \leq \mu \leq 4{,}0)$

P = 4(Wangi)

- Formula 4

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{100}{25}$$

$$= 4$$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{2(5-4)^2 + 21(4-4)^2 + 2(3-4)^2}{25}$$

$$= \frac{2+0+2}{25}$$

$= 0{,}16$

$S = \sqrt{S^2}$

$= \sqrt{0{,}16}$

$= 0{,}4000$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(4 - 1{,}96 \text{ x } 0{,}4000/\sqrt{25})) \leq \mu \leq (4 + (1{,}96 \text{ x } 0{,}4000/\sqrt{25}$

P $(4 - 0{,}16) \leq \mu \leq (4{,}12 + 0{,}16)$

P $(3{,}8 \leq \mu \leq 4{,}2)$

P = 4(Wangi)

- Formula 5 (kontrol -)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{63}{25}$$

$= 2{,}52$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{2(4-2{,}52)^2 + 9(3-2{,}52)^2 + 14(2-2{,}52)^2}{25}$$

$$= \frac{4{,}3808 + 2{,}0736 + 3{,}7856}{25}$$

$= 0{,}4096$

$S = \sqrt{S^2}$

$= \sqrt{0{,}4096}$

$= 0{,}6400$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(2{,}52 - 1{,}96 \text{ x } 0{,}6400/\sqrt{25})) \leq \mu \leq (2{,}52 + (1{,}96 \text{ x } 0{,}6400/\sqrt{25}$

P $(2{,}52 - 0{,}25) \leq \mu \leq (2{,}52 + 0{,}25)$

P $(2{,}3 \leq \mu \leq 2{,}8)$

P = 2 (Agak kurang wangi)

- Formula 6 (kontrol +)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{121}{25}$

= 4,84

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$S^2 = \frac{24(5 - 4{,}84)^2 + 1(4 - 4{,}84)^2}{25}$$

$= \frac{5{,}6784 + 2{,}8224}{25}$

= 0,34003

$S = \sqrt{S^2}$

$= \sqrt{0{,}34003}$

= 0,5831

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P (4,84– 1,93 x 0,5831/$\sqrt{25}$)) ≤ μ ≤ (4,84+ (1,96 x 0,5831/$\sqrt{25}$

P (4,84– 0,23) ≤ μ ≤ (4,84+ 0,23)

P (4,6 ≤ μ ≤ 5)

P = 5 (sangat wangi)

b. Ruangan Kipas angin

- Formula 1

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{99}{25}$

= 3,24

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$= \frac{6(5 - 3{,}24)^2 + 19(4 - 3{,}24)^2}{25}$$

$= \frac{3{,}4656 + 1{,}0944}{25}$

= 0,1824

S = $\sqrt{S^2}$

= $\sqrt{0{,}1824}$

= 0,4271

$P(\bar{X}$ – (1,96 x s/$\sqrt{n}$)) ≤ μ ≤ $P(\bar{X}$ + (1,96 x s/$\sqrt{n}$) = 95%

P (3,246– 1,93 x 0,4271/$\sqrt{25}$)) ≤ μ ≤ (3,24+ (1,96 x 0,4271/$\sqrt{25}$

P (3,24– 0,17) ≤ μ ≤ (3,24+ 0,17)

P (3,0 ≤ μ ≤ 3,4

P = 3(agak wangi

- Formula 2

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{83}{25}$

= 3,32

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$S^2 = \frac{1(5 - 3{,}32)^2 + 16(4 - 3{,}32)^2 + 8(3 - 3{,}32)^2}{25}$$

$= \frac{4{,}1616 + 1{,}536 + 1{,}7424}{25}$

= 0,2976

S = $\sqrt{S^2}$

= $\sqrt{0{,}2976}$

= 0,5455

$P(\bar{X}$ – (1,96 x s/$\sqrt{n}$)) ≤ μ ≤ $P(\bar{X}$ + (1,96 x s/$\sqrt{n}$) = 95%

P (3,32– 1,93 x 0,5455/$\sqrt{25}$)) ≤ μ ≤ (3,32+ (1,96 x 0,5455/$\sqrt{25}$

P (3,32– 0,21) ≤ μ ≤ (3,32+ 0,21)

P (3,1 ≤ μ ≤ 3,5

P = 3(agak wangi)

- Formula 3

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{93}{25}$$

$$= 3{,}72$$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$= \frac{1(5 - 3{,}72)^2 + 16(4 - 3{,}72)^2 + 8(3 - 3{,}72)^2}{25}$$

$$= \frac{1{,}6384 + 1{,}2544 + 4{,}1472}{25}$$

$$= 0{,}2816$$

$$S = \sqrt{S^2}$$

$$= \sqrt{0{,}2816}$$

$$= 0{,}5307$$

$$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$$

$$P\ (3{,}72 - 1{,}93 \text{ x } 0{,}5307/\sqrt{25})) \leq \mu \leq (3{,}72 + (1{,}96 \text{ x } 0{,}5307/\sqrt{25}$$

$$P\ (3{,}72 - 0{,}21) \leq \mu \leq 3{,}72 + 0{,}21)$$

$$P\ (3.5 \leq \mu \leq 3{,}9$$

P = 4(Wangi)

- Formula 4

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{97}{25}$$

$$= 3{,}88$$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$= \frac{1(5 - 3{,}88)^2 + 20(4 - 3{,}88)^2 + 4(3 - 3{,}88)^2}{25}$$

$$= \frac{1{,}2544 + 0{,}2880 + 3{,}0976}{25}$$

$$= 0{,}1875$$

$$S = \sqrt{S^2}$$

$$= \sqrt{0{,}1875}$$

= 0,4308

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P (3,88– 1,93 x 0,4308/$\sqrt{25}$)) ≤ μ ≤ (3,88+ (1,96 x 0,4308/$\sqrt{25}$

P (3,88– 0,17) ≤ μ ≤ (3,88+ 0,17)

P (3,7 ≤ μ ≤ 4,0

P = 4(Wangi)

- Formula 5 (kontrol -)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{52}{25}$

= 2,08

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$S^2 = \frac{1(4 - 2{,}08)^2 + 5(3 - 2{,}08)^2 + 14(2 - 2{,}08)^2 + 5(1 - 2{,}08)^2}{25}$$

$= \frac{3{,}6864+4{,}232 + 0{,}0896 + 5{,}832}{25}$

= 0,5536

$S = \sqrt{S^2}$

$= \sqrt{0{,}5536}$

= 0,7440

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P (2,08– 1,93 x 0,7440/$\sqrt{25}$)) ≤ μ ≤ (2,08+ (1,96 x 0,7440/$\sqrt{25}$

P (2,08– 0,29) ≤ μ ≤ (2,08+ 0,29)

P (1,8 ≤ μ ≤ 2,4

P = 2(Agak kurang wangi)

- Formula 6 (kontrol +)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{121}{25}$

= 4,84

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$S^2 = \frac{24(5 - 4{,}84)^2 + 1(4 - 4{,}84)^2}{25}$$

$$= \frac{5{,}6784 + 2{,}8224}{25}$$

= 0,34003

S $= \sqrt{S^2}$

$= \sqrt{0{,}34003}$

= 0,5831

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P (4,84– 1,93 x 0,5831/$\sqrt{25}$)) $\leq \mu \leq$ (4,84+ (1,96 x 0,5831/$\sqrt{25}$

P (4,84– 0,23) $\leq \mu \leq$ (4,84+ 0,23)

P (4,6 $\leq \mu \leq$ 5)

P = 5 (sangat wangi)

c. Ruangan Biasa

- Formula 1

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{85}{25}$

= 3,40

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{11(5 - 3{,}40)^2 + 13(4 - 3{,}40)^2 + 1(3 - 3{,}40)^2}{25}$$

$$= \frac{3{,}960 + 2{,}080 + 1{,}960}{25}$$

= 0,320

S $= \sqrt{S^2}$

$= \sqrt{0{,}320}$

= 0,5657

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P (3,40 – 1,93 x 0,5657/$\sqrt{25}$)) ≤ μ ≤ (3,40 + (1,96 x 0,5657/$\sqrt{25}$

P (3,40 –0, 23) ≤ μ ≤ (3,40 + 0,23)

P (3,2 ≤ μ ≤ 3,6

P = 3 (Agak wangi)

- Formula 2

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{91}{25}$

= 3,64

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{16(5 - 3{,}64)^2 + 9(4 - 3{,}64)^2}{25}$$

$= \frac{2{,}0736 + 3{,}6864}{25}$

= 0,2304

$S = \sqrt{S^2}$

$= \sqrt{0{,}2304}$

= 0,4800

$P(\bar{X}$ – (1,96 x s/$\sqrt{n}$)) ≤ μ ≤ $P(\bar{X}$ + (1,96 x s/$\sqrt{n}$) = 95%

P (3,64 – 1,93 x 0,4800/$\sqrt{25}$)) ≤ μ ≤ (3,64+ (1,96 x 0,4800/$\sqrt{25}$

P (3,64–0,19) ≤ μ ≤ (3,64+ 0,19)

P (3,5 ≤ μ ≤ 3,8)

P = 4 (wangi)

- Formula 3

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{99}{25}$

= 3,96

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{24(4-3{,}96)^2 + 1(4-3{,}96)^2}{25}$$

$$= \frac{0{,}0384 + 0{,}9216}{25}$$

$$= 0{,}0384$$

$$S = \sqrt{S^2}$$

$$= \sqrt{0{,}0384}$$

$$= 0{,}1960$$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(3{,}96 - 1{,}93 \text{ x } 0{,}1960/\sqrt{25})) \leq \mu \leq (3{,}96 + (1{,}96 \text{ x } 0{,}1960/\sqrt{25}$

P $(3{,}96–0{,}08) \leq \mu \leq (3{,}96+ 0{,}08)$

P $(3{,}9 \leq \mu \leq 4{,}0)$

P = 4 (wangi)

- Formula 4

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{99}{25}$$

$$= 3{,}96$$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{24(4-3{,}96)^2 + 1(4-3{,}96)^2}{25}$$

$$= \frac{0{,}0384 + 0{,}9216}{25}$$

$$= 0{,}0384$$

$$S = \sqrt{S^2}$$

$$= \sqrt{0{,}0384}$$

$$= 0{,}1960$$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(3{,}96 - 1{,}93 \text{ x } 0{,}1960/\sqrt{25})) \leq \mu \leq (3{,}96 + (1{,}96 \text{ x } 0{,}1960/\sqrt{25}$

P (3,96–0, 08) ≤ μ ≤ (3,96+ 0,08)

P (3,9 ≤ μ ≤ 4,0)

P = 4 (wangi)

- Formula 5 (control -)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{99}{25}$$

$$= 2{,}69$$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{1(4 - 3{,}96)^2 + 4(3 - 3{,}96)^2 + 10(2 - 3{,}96)^2}{25}$$

$$= \frac{1{,}8496 + 1{,}8144 + 4{,}096}{25}$$

$$= 0{,}3104$$

$$S = \sqrt{S^2}$$

$$= \sqrt{0{,}3104}$$

$$= 0{,}5571$$

$P(\bar{X}$ – (1,96 x s/$\sqrt{n}$)) ≤ μ ≤ $P(\bar{X}$ + (1,96 x s/$\sqrt{n}$) = 95%

P (2,64– 1,93 x 0,5571/$\sqrt{25}$)) ≤ μ ≤ (3,96+ (1,96 x 0,5571/$\sqrt{25}$

P (2,64– 0,22) ≤ μ ≤ (2,64+ 0,22)

P (2,4 ≤ μ ≤ 2,7

P = 2 agak kurang (wangi)

- Formula 6 (kontrol +)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{121}{25}$$

$$= 4{,}84$$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{21(5-4{,}84)^2 + 4(4-4{,}84)^2}{25}$$

$$= \frac{0{,}5376 + 2{,}8224}{25}$$

$$= 0{,}1344$$

$$S = \sqrt{S^2}$$

$$= \sqrt{0{,}1344}$$

$$= 0{,}3666$$

$P(\bar{X}$ – (1,96 x s/$\sqrt{n})) \leq \mu \leq P(\bar{X}$ + (1,96 x s/$\sqrt{n}) = 95\%$

P (4,84 – 1,93 x 0,3666/$\sqrt{25})) \leq \mu \leq$ (4,84 + (1,96 x 0,3666/$\sqrt{25}$

P (3,84 – 0,14) $\leq \mu \leq$ (4,84 + 0,14)

P (4,3 $\leq \mu \leq$ 4,6

P = 4 (wangi)

3. Minggu ke 3 (hari ke-21)

a. Ruangan AC

- Formula 1

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{79}{25}$$

$$= 3{,}16$$

$$S^2 = \frac{\sum_{i=1}^{n} (X-\bar{X})^2}{n}$$

$$S^2 = \frac{6(4-3{,}16)^2 + 17(3-3{,}16)^2 + 2(2-3{,}16)^2}{25}$$

$$= \frac{4{,}2336 + 0{,}4352 + 2{,}6912}{25}$$

$$= 0{,}2944$$

$$S = \sqrt{S^2}$$

$$= \sqrt{0{,}2944}$$

$$= 0{,}5426$$

$P(\bar{X}$ – (1,96 x s/$\sqrt{n})) \leq \mu \leq P(\bar{X}$ + (1,96 x s/$\sqrt{n}) = 95\%$

P (3,16– 1,93 x 0,5426/$\sqrt{25}$)) ≤ μ ≤ (3,16+ (1,96 x 0,5426/$\sqrt{25}$

P (3,16– 0,21) ≤ μ ≤ (3,16+ 0,21)

P (2,9 ≤ μ ≤ 3,4

P = 3(Agak Wangi)

- Formula 2

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{86}{25}$$

$$= 3,44$$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{11(4 - 3,44)^2 + 14(3 - 3,44)^2}{25}$$

$$= \frac{3,4496 + 2,7104}{25}$$

$$= 0,2464$$

$$S = \sqrt{S^2}$$

$$= \sqrt{0,2464}$$

$$= 0,4964$$

$P(\bar{X}$ – (1,96 x s/$\sqrt{n}$)) ≤ μ ≤ $P(\bar{X}$ + (1,96 x s/$\sqrt{n}$) = 95%

P (3,44 – 1,93 x 0,4964/$\sqrt{25}$)) ≤ μ ≤ (3,44+ (1,96 x 0,4964/$\sqrt{25}$

P (3,44– 0,21) ≤ μ ≤ (3,44+ 0,21)

P (3,2 ≤ μ ≤ 3,6)

P = 3(Agak Wangi)

- Formula 3

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{87}{25}$$

$$= 3,44$$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{12(4-3{,}44)^2 + 13(3-3{,}44)^2}{25}$$

$$= \frac{3{,}2448 + 2{,}5168}{25}$$

$= 0{,}23046$

$S = \sqrt{S^2}$

$= \sqrt{0{,}23046}$

$= 0{,}4801$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(3{,}44 - 1{,}96 \text{ x } 0{,}4801/\sqrt{25})) \leq \mu \leq (3{,}44 + (1{,}96 \text{ x } 0{,}4801/\sqrt{25}$

P $(3{,}44 - 0{,}19) \leq \mu \leq (3{,}44 + 0{,}19)$

P $(3{,}2 \leq \mu \leq 3{,}6)$

P = 3(Agak Wangi)

- Formula 4

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{98}{25}$$

$= 3{,}92$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{23(4-3{,}92)^2 + 2(3-3{,}92)^2}{25}$$

$$= \frac{0{,}1472 + 1{,}6928}{25}$$

$= 0{,}0736$

$S = \sqrt{S^2}$

$= \sqrt{0{,}0736}$

$= 0{,}2713$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(3{,}92 - 1{,}96 \text{ x } 0{,}2713/\sqrt{25})) \leq \mu \leq (3{,}92 + (1{,}96 \text{ x } 0{,}2713/\sqrt{25}$

P $(3{,}92 - 0{,}11) \leq \mu \leq (3{,}92 + 0{,}11)$

P $(3{,}8 \leq \mu \leq 4{,}0)$

P = 4(Wangi)

- Formula 5 (kontrol -)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{38}{25}$

= 1,52

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{15(2 - 1{,}52)^2 + 12(1 - 1{,}52)^2}{25}$$

$= \frac{2{,}9952 + 3{,}2448}{25}$

= 0,2496

$S = \sqrt{S^2}$

$= \sqrt{0{,}2496}$

= 0,4996

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P (1,52– 1,96 x 0,4996/$\sqrt{25}$)) ≤ μ ≤ (1,52+ (1,96 x 0,4996/$\sqrt{25}$

P (1,52– 0,20) ≤ μ ≤ (1,52+ 0,20)

P (1,3 ≤ μ ≤ 1,7)

P = 1 (tidak wangi)

- Formula 6 (kontrol +)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{122}{25}$

= 4,88

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$S^2 = \frac{22(5 - 4{,}88)^2 + 3(4 - 4{,}88)^2}{25}$$

$= \frac{0{,}3168 + 2{,}3232}{25}$

= 0,1056

$S = \sqrt{S^2}$

$= \sqrt{0{,}1056}$

$= 0{,}3250$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(4{,}88 - 1{,}93 \text{ x } 0{,}3250/\sqrt{25})) \leq \mu \leq (4{,}88 + (1{,}96 \text{ x } 0{,}3250/\sqrt{25}$

P $(4{,}88 - 0{,}13) \leq \mu \leq (4{,}88 + 0{,}13)$

P $(4{,}7 \leq \mu \leq 4{,}9)$

P = 5 (sangat wangi)

b. Ruangan kipas angin

c. Formula 1

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{63}{25}$$

$$= 2{,}52$$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$= \frac{13(3 - 2{,}52)^2 + 12(2 - 2{,}52)^2}{25}$$

$$= \frac{2{,}9468 + 3{,}2448}{25}$$

$= 0{,}2496$

$S = \sqrt{S^2}$

$= \sqrt{0{,}2496}$

$= 0{,}4996$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(2{,}52 - 1{,}93 \text{ x } 0{,}4996/\sqrt{25})) \leq \mu \leq (2{,}52 + (1{,}96 \text{ x } 0{,}4996/\sqrt{25}$

P $(2{,}52 - 0{,}20) \leq \mu \leq (2{,}52 + 0{,}20)$

P $(2{,}3 \leq \mu \leq 2{,}7$

P = 2(agak kurang wangi)

d. Formula 2

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{69}{25}$$

$$= 2{,}76$$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$S^2 = \frac{19(3 - 2{,}76)^2 + 6(2 - 2{,}76)^2}{25}$$

$$= \frac{1{,}0944 + 3{,}4656}{25}$$

$$= 0{,}1824$$

$$S = \sqrt{S^2}$$

$$= \sqrt{0{,}1824}$$

$$= 0{,}4271$$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P (2,76– 1,93 x 0,4271/$\sqrt{25}$)) $\leq \mu \leq$ (2,76+ (1,96 x 0,4271/$\sqrt{25}$

P (2,76– 0,17) $\leq \mu \leq$ (2,76 + 0,17)

P (2,6 $\leq \mu \leq$ 2,9

P = 3(agak wangi)

e. Formula 3

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{79}{25}$$

$$= 3{,}16$$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$S^2 = \frac{5(4 - 3{,}16)^2 + 19(3 - 3{,}16)^2 + 1(2 - 3{,}16)^2}{25}$$

$$= \frac{2{,}528 + 0{,}4864 + 1{,}3456}{25}$$

$$= 0{,}1744$$

$S = \sqrt{S^2}$

$= \sqrt{0{,}1744}$

= 0,4176

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P (3,16– 1,93 x 0,4176/$\sqrt{25}$)) ≤ μ ≤ (3,16+ (1,96 x 0,4176/$\sqrt{25}$

P (3,16– 0,16) ≤ μ ≤ 3,16+ 0,16)

P (3,0 ≤ μ ≤ 3,3

P = 3(agak wangi)

f. Formula 4

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{86}{25}$

= 3,44

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$= \frac{11(4 - 3{,}44)^2 + 14(3 - 3{,}44)^2}{25}$$

$$= \frac{3{,}4496 + 2{,}7106}{25}$$

= 0,2464

$S = \sqrt{S^2}$

$= \sqrt{0{,}2464}$

= 0,4969

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P (3,44– 1,93 x 0,4969/$\sqrt{25}$)) ≤ μ ≤ (3,44+ (1,96 x 0,4969/$\sqrt{25}$

P (3,44– 0,19) ≤ μ ≤ (3,44+ 0,19)

P (3,3 ≤ μ ≤ 3,6

P = 3(agak wangi)

- Formula 5 (kontrol -)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{26}{25}$

= 1,04

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$S^2 = \frac{1(2 - 1{,}04)^2 + 24(1 - 1{,}04)^2}{25}$$

$= \frac{0{,}9216 + 0{,}0384}{25}$

= 0,0384

$S = \sqrt{S^2}$

$= \sqrt{0{,}0384}$

= 0,1960

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P (1,04– 1,93 x 0,1960/$\sqrt{25}$)) ≤ μ ≤ (1,04+ (1,96 x 0,1960/$\sqrt{25}$

P (1,04– 0,08) ≤ μ ≤ (1,04+ 0,08)

P (1,0 ≤ μ ≤ 1,12

P = 1(tidak wangi)

- Formula 6 (kontrol +)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{112}{25}$

= 4,48

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$S^2 = \frac{12(5 - 4{,}48)^2 + 13(4 - 4{,}48)^2}{25}$$

$= \frac{3{,}2448 + 0{,}2995}{25}$

= 0,2496

$S = \sqrt{S^2}$

$= \sqrt{0{,}2496}$

= 0,4996

$P(\bar{X}$ – (1,96 x s/$\sqrt{n}$)) ≤ μ ≤ $P(\bar{X}$ + (1,96 x s/$\sqrt{n}$) = 95%

P (4,84– 1,93 x 0,4996/$\sqrt{25}$)) ≤ μ ≤ (4,84+ (1,96 x 0,4996/$\sqrt{25}$

P (4,48– 0,20) ≤ μ ≤ (4,48+ 0,20)

P (4,3 ≤ μ ≤ 4.7)

P = 4 (wangI)

g. Ruangan biasa

- Formula 1

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{79}{25}$

= 3,16

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{5(4 - 3{,}16)^2 + 19(3 - 3{,}16)^2 + 1(2 - 3{,}16)^2}{25}$$

$= \frac{3{,}528 + 0{,}4864 + 1{,}3456}{25}$

= 0,2144

$S = \sqrt{S^2}$

$= \sqrt{0{,}2144}$

= 0,4630

$P(\bar{X}$ – (1,96 x s/$\sqrt{n}$)) ≤ μ ≤ $P(\bar{X}$ + (1,96 x s/$\sqrt{n}$) = 95%

P (3,16 – 1,96 x 0,4630/$\sqrt{25}$)) ≤ μ ≤ (3,16 + (1,96 x 0,4630/$\sqrt{25}$

P (3,16 –0, 18) ≤ μ ≤ (3,16 + 0,18)

P (2,98 ≤ μ ≤ 3,34

P = 3 (Agak suka)

- Formula 2

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{3{,}36}{25}$

= 3,36

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{5(4 - 3{,}36)^2 + 19(3 - 3{,}36)^2 + 1(2 - 3{,}36)^2}{25}$$

$$= \frac{4{,}096 + 1{,}8144 + 1{,}8496}{25}$$

= 0,3104

S = $\sqrt{S^2}$

= $\sqrt{0{,}3104}$

= 0,5571

$P(\bar{X}$ – (1,96 x s/$\sqrt{n}$)) ≤ μ ≤ $P(\bar{X}$ + (1,96 x s/$\sqrt{n}$) = 95%

P (3,36 – 1,93 x 0,5571/$\sqrt{25}$)) ≤ μ ≤ (3,36+ (1,96 x 0,5571/$\sqrt{25}$

P (3,36–0,22) ≤ μ ≤ (3,36+ 0,22)

P (3,2 ≤ μ ≤ 3,6)

P = 3 (agak wangi)

a. Formula 3

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{86}{25}$$

= 3,44

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$= \frac{11(4 - 3{,}44)^2 + 14(3 - 3{,}44)^2}{25}$$

$$= \frac{3{,}4496 + 2{,}7106}{25}$$

= 0,2464

S = $\sqrt{S^2}$

= $\sqrt{0{,}2464}$

= 0,4969

$P(\bar{X}$ – (1,96 x s/$\sqrt{n}$)) ≤ μ ≤ $P(\bar{X}$ + (1,96 x s/$\sqrt{n}$) = 95%

P (3,44– 1,93 x 0,4969/$\sqrt{25}$)) ≤ μ ≤ (3,44+ (1,96 x 0,4969/$\sqrt{25}$

P (3,44– 0,19) ≤ μ ≤ (3,44+ 0,19)

P (3,3 ≤ μ ≤ 3,6

P = 3(agak wangi)

- Formula 4

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{99}{25}$$

$$= 3{,}96$$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{24(4 - 3{,}96)^2 + 1(4 - 3{,}96)^2}{25}$$

$$= \frac{0{,}0384 + 0{,}9216}{25}$$

$$= 0{,}0384$$

$$S = \sqrt{S^2}$$

$$= \sqrt{0{,}0384}$$

$$= 0{,}1960$$

$P(\bar{X}$ – (1,96 x s/$\sqrt{n}$)) ≤ μ ≤ $P(\bar{X}$ + (1,96 x s/$\sqrt{n}$) = 95%

P (3,96 – 1,93 x 0,1960/$\sqrt{25}$)) ≤ μ ≤ (3,96 + (1,96 x 0,1960/$\sqrt{25}$

P (3,96–0, 08) ≤ μ ≤ (3,96+ 0,08)

P (3,9 ≤ μ ≤ 4,0)

P = 4 (wangi)

- Formula 5 (control -)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{47}{25}$$

$$= 1{,}88$$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{2(3-1{,}88)^2 + 18(2-1{,}88)^2 + 5(1-1{,}88)^2}{25}$$

$$= \frac{2{,}509 + 8{,}259 + 3{,}872}{25}$$

= 0,2656

S = $\sqrt{S^2}$

= $\sqrt{0{,}2656}$

= 0,5154

$P(\bar{X}$ – (1,96 x s/$\sqrt{n}$)) ≤ μ ≤ $P(\bar{X}$ + (1,96 x s/$\sqrt{n}$) = 95%

P (1,88– 1,93 x 0,5154/$\sqrt{25}$)) ≤ μ ≤ (1,88+ (1,96 x 0,5154/$\sqrt{25}$

P (1,88– 0,20) ≤ μ ≤ (1,88+ 0,20)

P (1,7 ≤ μ ≤ 2,1

P = 2 agak kurang (wangi)

- Formula 6 (kontrol +)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{122}{25}$$

= 4,88

$$S^2 = \frac{\sum_{i=1}^{n} (X-\bar{X})^2}{n}$$

$$S^2 = \frac{22(5-4{,}88)^2 + 3(4-4{,}88)^2}{25}$$

$$= \frac{0{,}3168 + 2{,}3232}{25}$$

= 0,1056

S = $\sqrt{S^2}$

= $\sqrt{0{,}1056}$

= 0,3250

$P(\bar{X}$ – (1,96 x s/$\sqrt{n}$)) ≤ μ ≤ $P(\bar{X}$ + (1,96 x s/$\sqrt{n}$) = 95%

P (4,88 – 1,93 x 0,3250/$\sqrt{25}$)) ≤ μ ≤ (4,88+ (1,96 x 0,3250/$\sqrt{25}$

P (4,88– 0,13) ≤ μ ≤ (4,88+ 0,13)

P (4,8 ≤ μ ≤ 5,0

P = 5 (sangat wangi)

4. Minggu ke 4 (hari ke-28)

a. Ruangan AC

- Formula 1

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{41}{25}$

= 1,64

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{1(3 - 1{,}64)^2 + 12(2 - 1{,}64)^2 + 11(1 - 1{,}64)^2}{25}$$

$= \frac{1{,}8496 + 1{,}555 + 4{,}5056}{25}$

= 0,3164

$S = \sqrt{S^2}$

$= \sqrt{0{,}3164}$

= 0,5625

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P (1,64 – 1,96 x 0,5625/$\sqrt{25}$)) ≤ μ ≤ (1,64 + (1,96 x 0,5625/$\sqrt{25}$

P (1,64 – 0,22) ≤ μ ≤ (1,64 + 0,22)

P (1,4 ≤ μ ≤ 1,8

P = 1(Sangat Tidak Wangi)

- Formula 2

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{62}{25}$

= 2,48

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{5(4-2{,}48)^2 + 19(3-2{,}48)^2 + 1(2-2{,}48)^2}{25}$$

$$= \frac{2{,}3104 + 2{,}9744 + 2{,}7648 + 2{,}1904}{25}$$

$$= 0{,}4096$$

$$S = \sqrt{S^2}$$

$$= \sqrt{0{,}4096}$$

$$= 0{,}6400$$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(2{,}48 - 1{,}93 \text{ x } 0{,}6400/\sqrt{25})) \leq \mu \leq (2{,}48 + (1{,}96 \text{ x } 0{,}6400/\sqrt{25}$

P $(2{,}48 - 0{,}25) \leq \mu \leq (2{,}48 + 0{,}25)$

P $(2{,}23 \leq \mu \leq 2{,}73)$

P = 2(Agak kurang Wangi)

- Formula 3

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{62}{25}$$

$$= 2{,}48$$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{5(4-2{,}48)^2 + 19(3-2{,}48)^2 + 1(2-2{,}48)^2}{25}$$

$$= \frac{2{,}3104 + 2{,}9744 + 2{,}7648 + 2{,}1904}{25}$$

$$= 0{,}4096$$

$$S = \sqrt{S^2}$$

$$= \sqrt{0{,}4096}$$

$$= 0{,}6400$$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(2{,}48 - 1{,}93 \text{ x } 0{,}6400/\sqrt{25})) \leq \mu \leq (2{,}48 + (1{,}96 \text{ x } 0{,}6400/\sqrt{25}$

P (2,48– 0,25) ≤ μ ≤ (2,48+ 0,25)

P (2,23 ≤ μ ≤ 2,73)

P = 2(Agak kurang Wangi)

- Formula 4

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{64}{25}$

= 2,56

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{14(3 - 2{,}56)^2 + 11(2 - 2{,}56)^2}{25}$$

$= \frac{2{,}7104 + 3{,}4496}{25}$

= 0,2464

$S = \sqrt{S^2}$

$= \sqrt{0{,}2464}$

= 0,4964

$P(\bar{X}$ – (1,96 x s/$\sqrt{n}$)) ≤ μ ≤ $P(\bar{X}$ + (1,96 x s/$\sqrt{n}$) = 95%

P (2,56 – 1,93 x 0,4964/$\sqrt{25}$)) ≤ μ ≤ (2,56+ (1,96 x 0,4964/$\sqrt{25}$

P (2,56–0, 19) ≤ μ ≤ (2,56+ 0,19)

P (2,4≤ μ ≤ 2,7)

P = 2(agak kurang wangi)

- Formula 5 (kontrol -)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{28}{25}$

= 1,12

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{3(2 - 1{,}12)^2 + 22(1 - 1{,}12)^2}{25}$$

$$= \frac{2{,}3232 + 0{,}3168}{25}$$

$= 0{,}1056$

$S = \sqrt{S^2}$

$= \sqrt{0{,}1056}$

$= 0{,}3250$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(1{,}12 - 1{,}96 \text{ x } 0{,}3250/\sqrt{25})) \leq \mu \leq (1{,}12 + (1{,}96 \text{ x } 0{,}3250/\sqrt{25}$

P $(1{,}12 - 0{,}13) \leq \mu \leq (1{,}12 + 0{,}13)$

P $(1{,}0 \leq \mu \leq 1{,}3)$

P = 1 (tidak wangi)

- Formula 6 (kontrol +)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{121}{25}$$

$= 4{,}84$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$S^2 = \frac{21(5 - 4{,}84)^2 + 4(4 - 4{,}84)^2}{25}$$

$$= \frac{0{,}5376 + 2{,}8224}{25}$$

$= 0{,}1344$

$S = \sqrt{S^2}$

$= \sqrt{0{,}1344}$

$= 0{,}3666$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(4{,}84 - 1{,}93 \text{ x } 0{,}3666/\sqrt{25})) \leq \mu \leq (4{,}84 + (1{,}96 \text{ x } 0{,}3666/\sqrt{25}$

P $(4{,}84 - 0{,}14) \leq \mu \leq (4{,}84 + 0{,}14)$

P $(4{,}7 \leq \mu \leq 4{,}9)$

P = 5 (sangat wangi).

b. Ruangan kipas angin

- Formula 1

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{36}{25}$$

$$= 1{,}44$$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$= \frac{11(3 - 1{,}44)^2 + 14(2 - 1{,}44)^2}{25}$$

$$= \frac{3{,}4496 + 2{,}7104}{25}$$

$$= 0{,}2464$$

$$S = \sqrt{S^2}$$

$$= \sqrt{0{,}2464}$$

$$= 0{,}4964$$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P (1,44– 1,93 x 0,4964/$\sqrt{25}$)) $\leq \mu \leq$ (1,44+ (1,96 x 0,4964/$\sqrt{25}$

P (1,44– 0,19) $\leq \mu \leq$ (1,44+ 0,19)

P (1,24 $\leq \mu \leq$ 1,62)

P = 1(sangat tidak wangi)

- Formula 2

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$$= \frac{42}{25}$$

$$= 1{,}68$$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$S^2 = \frac{17(2 - 1{,}68)^2 + 8(1 - 1{,}68)^2}{25}$$

$= \frac{1,7408+3,6992}{25}$

= 0,2176

$S = \sqrt{S^2}$

$= \sqrt{0,2176}$

= 0,4665

$P(\bar{X} - (1,96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1,96 \text{ x } s/\sqrt{n}) = 95\%$

P (1,68– 1,93 x 0,4665/$\sqrt{25}$)) ≤ μ ≤ (1,68+ (1,96 x 0,4665/$\sqrt{25}$

P (1,68– 0,18) ≤ μ ≤ (1,68+ 0,18)

P (1,4 ≤ μ ≤ 1,7

P = 1(sangat tidak wangi)

- Formula 3

$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$

$= \frac{49}{25}$

= 1,96

$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$

$S^2 = \frac{4(3 - 1,96)^2 + 16(2 - 1,96)^2 + 5(1 - 1,96)^2}{25}$

$= \frac{4,3264 + 0,0256 + 4,608}{25}$

= 0,3584

$S = \sqrt{S^2}$

$= \sqrt{0,3584}$

= 0,5987

$P(\bar{X} - (1,96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1,96 \text{ x } s/\sqrt{n}) = 95\%$

P (1,96– 1,93 x 0,5987/$\sqrt{25}$)) ≤ μ ≤ (1,96+ (1,96 x 0,5987/$\sqrt{25}$

P (1,96– 0,23) ≤ μ ≤ 1,96+ 0,23)

P (1,7 ≤ μ ≤ 2,16

P = 2(agak kurang wangi)

- Formula 4

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{59}{25}$

= 2,32

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$= \frac{2(4 - 2{,}32)^2 + 5(3 - 2{,}32)^2 + 18(2 - 2{,}32)^2}{25}$$

$= \frac{5{,}645+2{,}312+1{,}8432}{25}$

= 0,39201

$S = \sqrt{S^2}$

$= \sqrt{0{,}39201}$

= 0,6261

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P (2,32– 1,93 x 0,6261/$\sqrt{25}$)) ≤ μ ≤ (2,32+ (1,96 x 0,6261/$\sqrt{25}$

P (2,32– 0,25) ≤ μ ≤ (2,32+ 0,25)

P (2,07 ≤ μ ≤ 2,5

P = 2(agak kurang wangi)

- Formula 5 (kontrol -)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{27}{25}$

= 1,08

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$S^2 = \frac{2(2 - 1{,}08)^2 + 23(1 - 1{,}08)^2}{25}$$

$= \frac{1{,}6928+0{,}1472}{25}$

=0,0736

$S = \sqrt{S^2}$

$= \sqrt{0{,}0736}$

$= 0{,}2731$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(1{,}08 - 1{,}93 \text{ x } 0{,}2731/\sqrt{25})) \leq \mu \leq (1{,}08 + (1{,}96 \text{ x } 0{,}2731/\sqrt{25}$

P $(1{,}08 - 0{,}11) \leq \mu \leq (1{,}08 + 0{,}11)$

P $(1{,}0 \leq \mu \leq 1{,}19$

P = 1(tidak wangi)

- Formula 6 (kontrol +)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{112}{25}$

$= 4{,}48$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n} S^2$$

$$S^2 = \frac{12(5 - 4{,}48)^2 + 13(4 - 4{,}48)^2}{25}$$

$= \frac{3{,}2448 + 0{,}2995}{25}$

$= 0{,}2496$

$S = \sqrt{S^2}$

$= \sqrt{0{,}2496}$

$= 0{,}4996$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(4{,}84 - 1{,}93 \text{ x } 0{,}4996/\sqrt{25})) \leq \mu \leq (4{,}84 + (1{,}96 \text{ x } 0{,}4996/\sqrt{25}$

P $(4{,}48 - 0{,}20) \leq \mu \leq (4{,}48 + 0{,}20)$

P $(4{,}3 \leq \mu \leq 4.7)$

P = 4 (wangi)

c. Ruangan biasa

- Formula 1

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{53}{25}$

= 2,12

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{5(3 - 2{,}12)^2 + 18(2 - 2{,}12)^2 + 2(2 - 2{,}12)^2}{25}$$

$= \frac{3{,}872 + 0{,}5832 + 2{,}5088}{25}$

= 0,279

$S = \sqrt{S^2}$

$= \sqrt{0{,}279}$

= 0,8282

$P(\bar{X}$ – (1,96 x s/$\sqrt{n}$)) ≤ $\mu \leq P(\bar{X}$ + (1,96 x s/$\sqrt{n}$) = 95%

P (2,12 – 1,96 x 0,8282/$\sqrt{25}$)) ≤ $\mu \leq$ (2,12+ (1,96 x 0,8282/$\sqrt{25}$

P (2,12–0,20) ≤ $\mu \leq$ (2,12+ 0,20)

P (1,9 ≤ $\mu \leq$ 2,3

P = 2 (Agak kurang wangi)

- Formula 2

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{61}{25}$

= 2,44

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{11(3 - 2{,}44)^2 + 14(2 - 2{,}44)^2}{25}$$

$= \frac{3{,}4466 + 2{,}7104}{25}$

= 0,2463

$S = \sqrt{S^2}$

$= \sqrt{0{,}2463}$

$= 0{,}4963$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(2{,}44 - 1{,}96 \text{ x } 0{,}4963/\sqrt{25})) \leq \mu \leq (2{,}44 + (1{,}96 \text{ x } 0{,}4963/\sqrt{25}$

P $(2{,}44 - 0{,}19) \leq \mu \leq (2{,}44 + 0{,}19)$

P $(2{,}2 \leq \mu \leq 3{,}6)$

P = 2 (agak kurang wangi)

- Formula 3

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{61}{25}$

$= 2{,}44$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{11(3 - 2{,}44)^2 + 14(2 - 2{,}44)^2}{25}$$

$= \frac{3{,}4466 + 2{,}7104}{25}$

$= 0{,}2463$

$S = \sqrt{S^2}$

$= \sqrt{0{,}2463}$

$= 0{,}4963$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(2{,}44 - 1{,}96 \text{ x } 0{,}4963/\sqrt{25})) \leq \mu \leq (2{,}44 + (1{,}96 \text{ x } 0{,}4963/\sqrt{25}$

P $(2{,}44 - 0{,}19) \leq \mu \leq (2{,}44 + 0{,}19)$

P $(2{,}2 \leq \mu \leq 3{,}6)$

P = 2 (agak kurang wangi)

- Formula 4

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{85}{25}$

$= 3{,}40$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{11(4 - 3{,}40)^2 + 3(3 - 3{,}40)^2 + 1(2 - 3{,}40)^2}{25}$$

$= \frac{3{,}96+0{,}48+1{,}96}{25}$

$= 0{,}256$

$S = \sqrt{S^2}$

$= \sqrt{0{,}256}$

$= 0{,}5060$

$P(\bar{X} - (1{,}96 \text{ x } s/\sqrt{n})) \leq \mu \leq P(\bar{X} + (1{,}96 \text{ x } s/\sqrt{n}) = 95\%$

P $(3{,}40 - 1{,}96 \text{ x } 0{,}5060/\sqrt{25})) \leq \mu \leq (3{,}40 + (1{,}96 \text{ x } 0{,}5060/\sqrt{25}$

P $(3{,}40 - 0{,}19) \leq \mu \leq (3{,}40 + 0{,}19)$

P $(3{,}2 \leq \mu \leq 3{,}6)$

P = 3(Agak Wangi)

- Formula 5 (control -)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{31}{25}$

$= 1{,}24$

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{6(2 - 1{,}24)^2 + 19(1 - 1{,}24)^2}{25}$$

$= \frac{3{,}4656 + 1{,}0944}{25}$

$= 0{,}1824$

$S = \sqrt{S^2}$

$= \sqrt{0{,}1824}$

= 0,4271

$P(\bar{X}$ – (1,96 x s/$\sqrt{n}$)) ≤ μ ≤ $P(\bar{X}$ + (1,96 x s/$\sqrt{n}$) = 95%

P (1,24– 1,93 x 0,4271/$\sqrt{25}$)) ≤ μ ≤ (1,24+ (1,96 x 0,4271/$\sqrt{25}$

P (1,24– 0,17) ≤ μ ≤ (1,24+ 0,17)

P (1,1 ≤ μ ≤ 1,4

P = 2 (Kurang wangi)

- Formula 6 (kontrol +)

$$\bar{X} = \frac{\sum_{i=1}^{n} Xi}{n}$$

$= \frac{121}{25}$

= 4,84

$$S^2 = \frac{\sum_{i=1}^{n} (X - \bar{X})^2}{n}$$

$$S^2 = \frac{21(5 - 4{,}84)^2 + 4(4 - 4{,}84)^2}{25}$$

$= \frac{0{,}5376 + 2{,}8224}{25}$

= 0,1344

$S = \sqrt{S^2}$

$= \sqrt{0{,}1344}$

= 0,3666

$P(\bar{X}$ – (1,96 x s/$\sqrt{n}$)) ≤ μ ≤ $P(\bar{X}$ + (1,96 x s/$\sqrt{n}$) = 95%

P (4,84 – 1,93 x 0,3666/$\sqrt{25}$)) ≤ μ ≤ (4,84+ (1,96 x 0,3666/$\sqrt{25}$

P (4,84– 0,14) ≤ μ ≤ (4,84+ 0,14)

P (4,7 ≤ μ ≤ 5,0

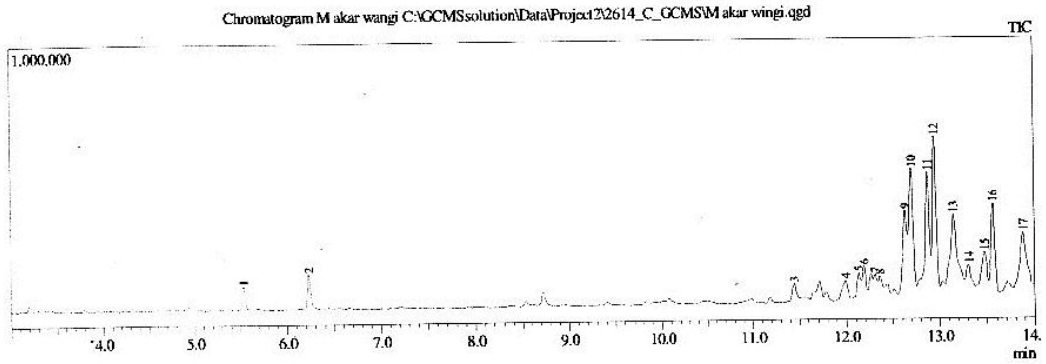
P = 5 (sangat wangi)

Lampiran 10. Hasil analisis GC-MS

1. Minyak akar wangi

Sample Information

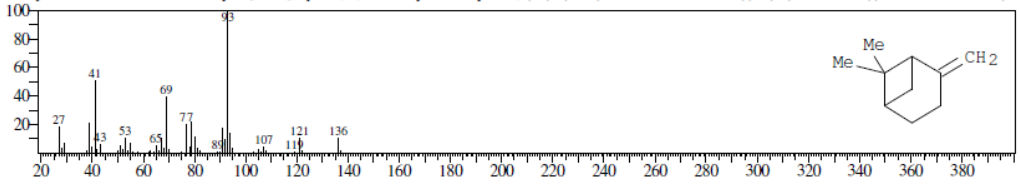
Analyzed by	: Admin
Analyzed	: 2/28/2019 9:36:56 AM
Sample Name	: M akar wangi
Sample ID	: 4
Injection Volume	: 0.10
Data File	: C:\GCMSsolution\Data\Project2\2614_C_GCMS\M akar wingi.qgd
Tuning File	: C:\GCMSsolution\System\Tune1\Tuning 191118.qgt



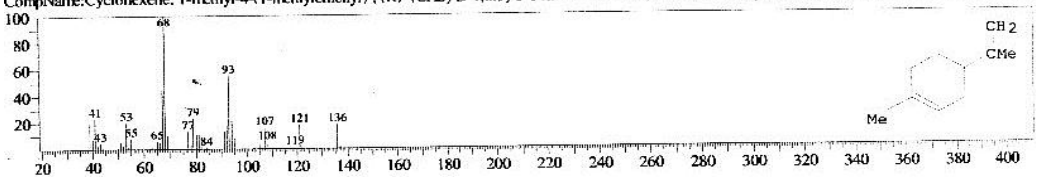
Peak Report TIC

Peak#	R.Time	I.Time	F.Time	Area	Area%	Height
1	5.531	5.495	5.570	163856	1.38	81531
2	6.227	6.185	6.280	267389	2.26	120556
3	11.443	11.395	11.490	152542	1.29	57325
4	11.991	11.915	12.045	250568	2.12	66594
5	12.134	12.050	12.160	241446	2.04	87552
6	12.190	12.160	12.225	276475	2.33	110191
7	12.308	12.225	12.335	386456	3.26	75265
8	12.357	12.335	12.400	181794	1.53	67415
9	12.630	12.555	12.660	997186	8.42	299712
10	12.699	12.660	12.755	1404975	11.86	447007
11	12.874	12.755	12.910	1493725	12.61	433716
12	12.947	12.910	13.000	1532101	12.93	561402
13	13.150	13.000	13.260	1724253	14.55	282135
14	13.303	13.260	13.375	421843	3.56	102561
15	13.473	13.375	13.515	641509	5.41	146698
16	13.563	13.515	13.625	911247	7.69	321123
17	13.879	13.805	13.985	799672	6.75	181997
				11847037	100.00	3442780

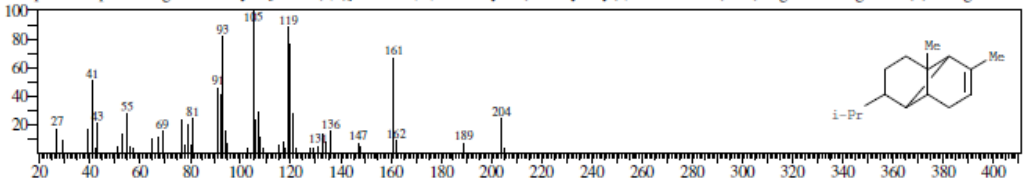
SI:97 Formula:C10 H16 CAS:18172-67-3 MolWeight:136 RetIndex:0
CompName:l-.beta.-Pinene $$ Bicyclo[3.1.1]heptane, 6,6-dimethyl-2-methylene-, (1S)- (CAS) .BETA.-PINENE $$ (-)-2(10)-Pinene $$ (-)-.beta.-Pinene $$ 2(1(



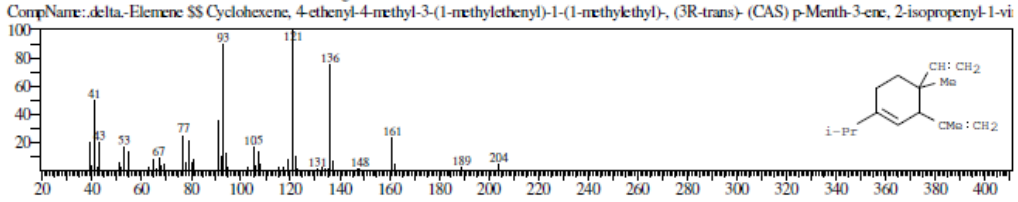
Hit#:2 Entry:26309 Library:WILEY7.LIB
SI:95 Formula:C10 H16 CAS:5989-27-5 MolWeight:136 RetIndex:0
CompName:Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (R)- (CAS) D-1,8(9)-P-MENTHADIENE,(D-1-METHYL-4-ISOPROPENYL CYCLOHEXENE $$ d-



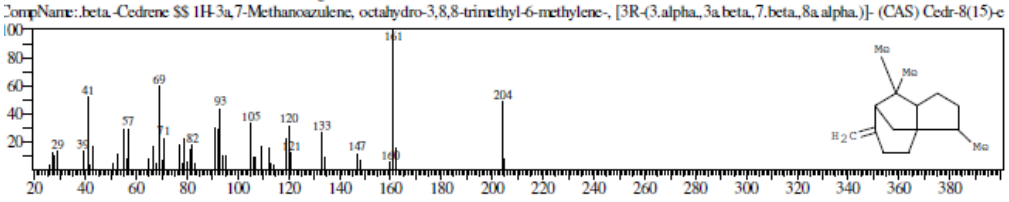
SI:94 Formula:C15 H24 CAS:14912-44-8 MolWeight:204 RetIndex:0
CompName:.alpha.-Ylangene $$ Tricyclo[4.4.0.0(2,7)]dec-3-ene, 1,3-dimethyl-8-(1-methylethyl)-, stereoisomer (CAS) Ilagen $$ Ylangene $$ (+)-Ylangene $$ T



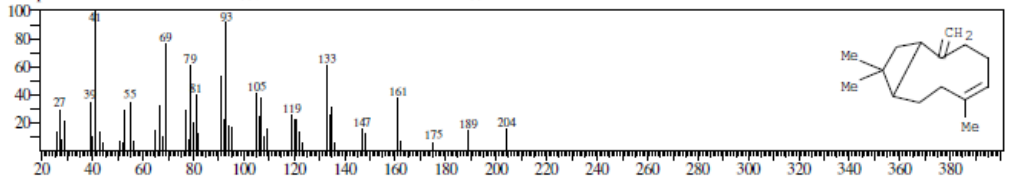
SI:87 Formula:C15 H24 CAS:20307-84-0 MolWeight:204 RetIndex:0
CompName:.delta.-Elemene $$ Cyclohexene, 4-ethenyl-4-methyl-3-(1-methylethenyl)-1-(1-methylethyl)-, (3R-trans)- (CAS) p-Menth-3-ene, 2-isopropenyl-1-vi



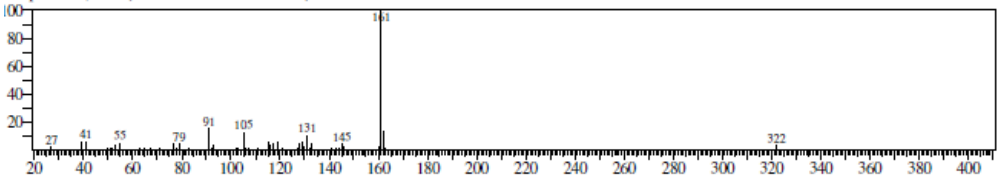
SI:89 Formula:C15 H24 CAS:546-28-1 MolWeight:204 RetIndex:0
CompName:.beta.-Cedrene $$ 1H-3a,7-Methanoazulene, octahydro-3,8,8-trimethyl-6-methylene-, [3R-(3.alpha.,3a.beta.,7.beta.,8a.alpha.)]- (CAS) Cedr-8(15)-e



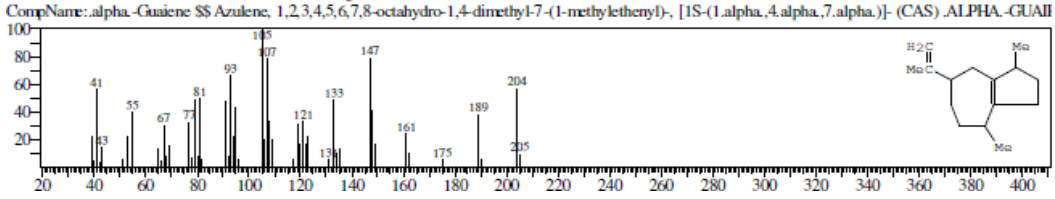
SI:92 Formula:C15 H24 CAS:118-65-0 MolWeight:204 RetIndex:0
CompName:ISOCARYOPHYLLEN $$ .GAMMA.-CARYOPHYLLENE $$



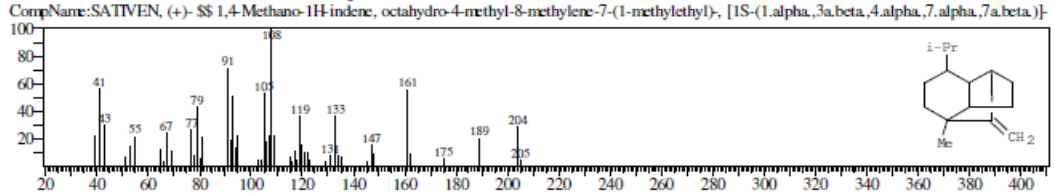
SI:83 Formula:C24 H34 CAS:52145-28-5 MolWeight:322 RetIndex:0
CompName:1,2-BIS(PENTAMETHYLPHENYL)-ETHANE $$



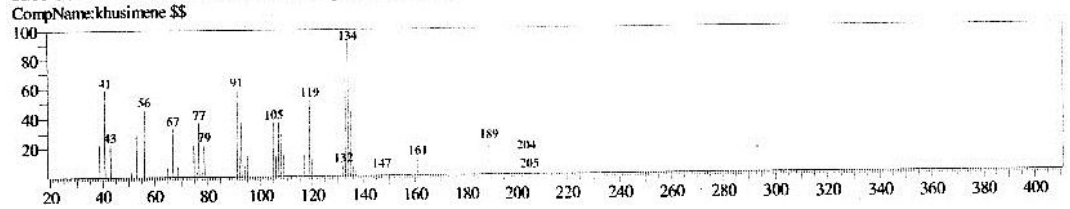
SI:91 Formula:C15 H24 CAS:3691-12-1 MolWeight:204 RetIndex:0
CompName:.alpha.-Guaiene $$ Azulene, 1,2,3,4,5,6,7,8-octahydro-1,4-dimethyl-7-(1-methylethenyl)-, [1S-(1.alpha.,4.alpha.,7.alpha.)]- (CAS) .ALPHA.-GUAII



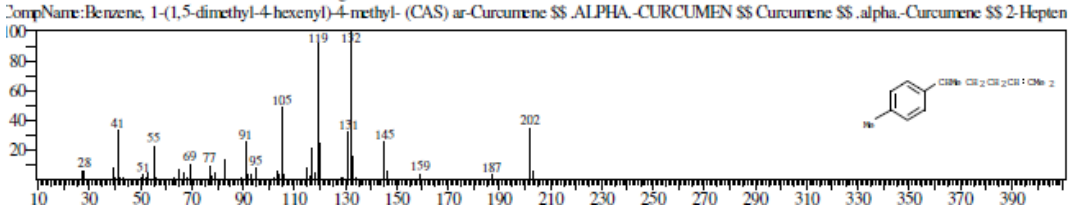
SI:83 Formula:C15 H24 CAS:3650-28-0 MolWeight:204 RetIndex:0
CompName:SATIVEN, (+)- $$ 1,4-Methano-1H-indene, octahydro-4-methyl-8-methylene-7-(1-methylethyl)-, [1S-(1.alpha.,3a.beta.,4.alpha.,7.alpha.,7a.beta.)]-



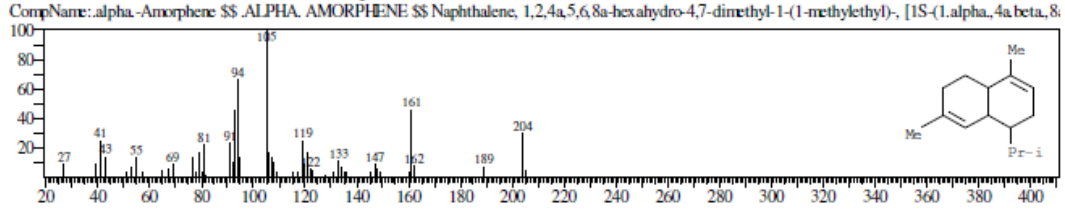
Hit#:3 Entry:100336 Library:WILEY7.LIB
SI:81 Formula:C15 H24 CAS:0-00-0 MolWeight:204 RetIndex:0
CompName:khusimene $$



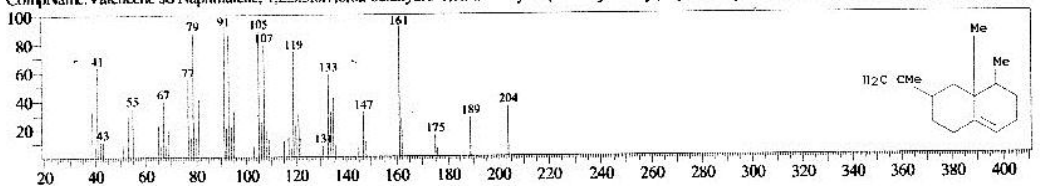
SI:95 Formula:C15 H22 CAS:644-30-4 MolWeight:202 RetIndex:0
CompName:Benzene, 1-(1,5-dimethyl-4-hexenyl)-4-methyl- (CAS) ar-Curcumene $$ .ALPHA.-CURCUMEN $$ Curcumene $$ .alpha.-Curcumene $$ 2-Hepten



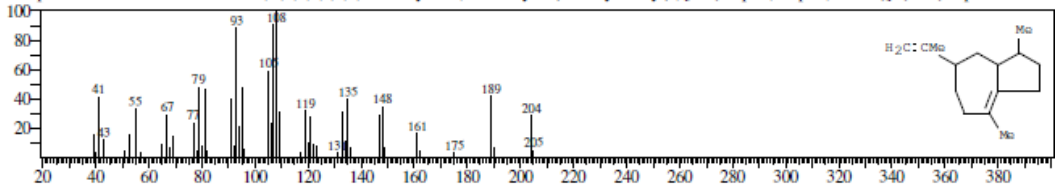
SI:97 Formula:C15 H24 CAS:23515-88-0 MolWeight:204 RetIndex:0
CompName:.alpha.-Amorphene $$ .ALPHA. AMORPHENE $$ Naphthalene, 1,2,4a,5,6,8a-hexahydro-4,7-dimethyl-1-(1-methylethyl)-, [1S-(1.alpha.,4a.beta.,8



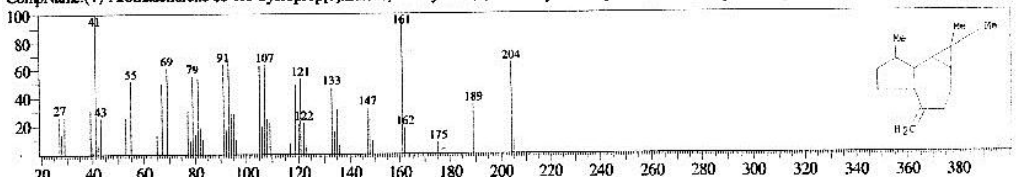
SI:87 Formula:C15 H24 CAS:4630-07-3 MolWeight:204 RetIndex:0
CompName:Valencene $$ Naphthalene, 1,2,3,5,6,7,8,8a-octahydro-1,8a-dimethyl-7-(1-methylethenyl)-, [1R-(1.alpha.,7.beta.,8a.alpha.)]- (CAS) Valencen $$ (+



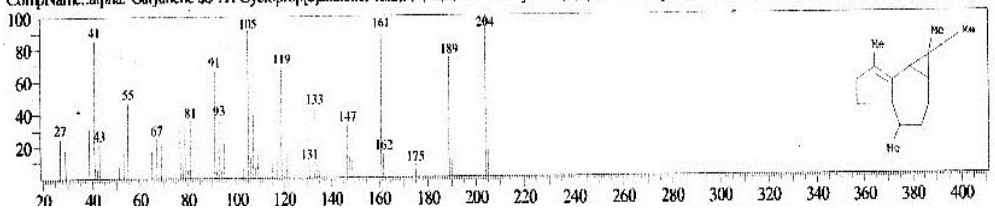
SI:92 Formula:C15 H24 CAS:3691-11-0 MolWeight:204 RetIndex:0
CompName:.delta.-Guaiene $$ Azulene, 1,2,3,5,6,7,8,8a-octahydro-1,4-dimethyl-7-(1-methylethenyl)-, [1S-(1.alpha.,7.alpha.,8a.beta.)]- (CAS) .alpha.-Bulnese



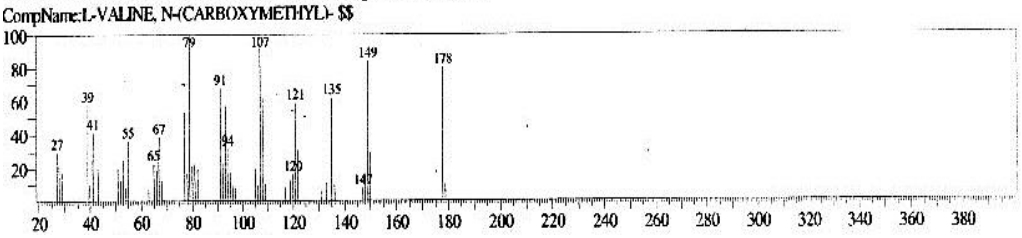
SI:88 Formula:C15 H24 CAS:489-39-4 MolWeight:204 RetIndex:0
CompName:(+)-Aromadendrene $$ 1H-Cycloprop[e]azulene, decahydro-1,1,7-trimethyl-4-methylene-, [1aR-(1a.alpha.,4a.alpha.,7.alpha.,7a.beta.,7b.alpha.)]- (C



SI:91 Formula:C15 H24 CAS:489-40-7 MolWeight:204 RetIndex:0
CompName:.alpha.-Gurjunene $$ 1H-Cycloprop[e]azulene, 1a,2,3,4,4a,5,6,7b-octahydro-1,1,4,7-tetramethyl-, [1aR-(1a.alpha.,4.alpha.,4a.beta.,7b.alpha.)]- (CA



SI:84 Formula:C11 H14 O2 CAS:41035-83-0 MolWeight:178 RetIndex:0
CompName:L-VALINE, N-(CARBOXYMETHYL)- $$

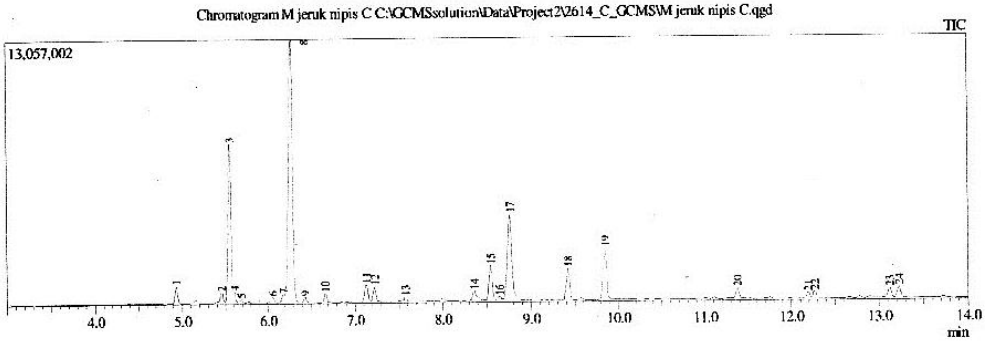


2. Minyak jeruk nipis

Sample Information

Analyzed by	: Admin
Analyzed	: 2/28/2019 9:19:27 AM
Sample Name	: M jeruk nipis C
Sample ID	: 3
Injection Volume	: 0.10
Data File	: C:\GCMSsolution\Data\Project2\2614_C_GCMS\M jeruk nipis C.qgd
Tuning File	: C:\GCMSsolution\System\Tune1\Tuning 191118.qgt

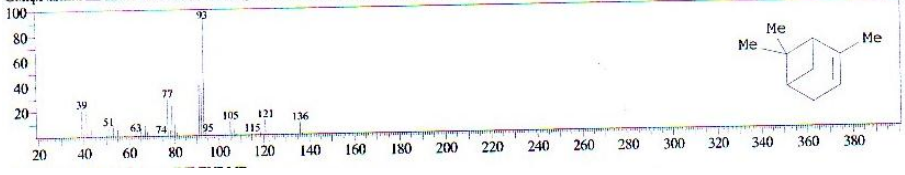
Chromatogram M jeruk nipis C C:\GCMSsolution\Data\Project2\2614_C_GCMS\M jeruk nipis C.qgd



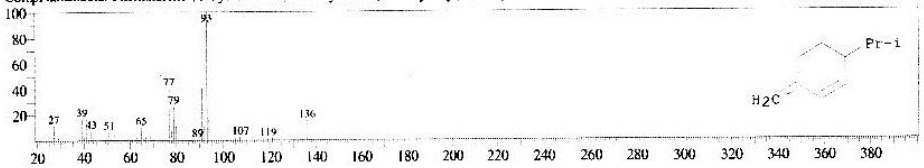
Peak Report TIC

Peak#	R.Time	L.Time	F.Time	Area	Area%	Height
1	4.931	4.885	4.985	1784347	1.60	866355
2	5.452	5.410	5.490	1100631	0.99	503382
3	5.554	5.490	5.590	18794556	16.89	7853061
4	5.605	5.590	5.645	844601	0.76	535412
5	5.684	5.650	5.725	367042	0.33	185251
6	6.053	6.015	6.105	523520	0.47	240541
7	6.175	6.125	6.200	1152206	1.04	407037
8	6.283	6.200	6.370	42608943	38.28	12979525
9	6.433	6.370	6.480	587212	0.53	275371
10	6.664	6.620	6.715	1013556	0.91	466288
11	7.128	7.075	7.180	2210332	1.99	857891
12	7.220	7.180	7.275	1603874	1.44	735229
13	7.569	7.530	7.615	474570	0.43	215696
14	8.358	8.310	8.445	1609477	1.45	482641
15	8.546	8.445	8.600	4519619	4.06	1705920
16	8.646	8.600	8.685	529460	0.48	175111
17	8.765	8.685	8.885	14857487	13.35	4240034
18	9.418	9.355	9.480	4090531	3.68	1589078
19	9.849	9.775	9.915	7040591	6.33	2551871
20	11.372	11.325	11.430	1256486	1.13	530735
21	12.190	12.145	12.230	768118	0.69	293221
22	12.267	12.230	12.320	854839	0.77	345465
23	13.113	13.060	13.165	1245479	1.12	479878
24	13.219	13.165	13.275	1459646	1.31	561621
				111297123	100.00	39076614

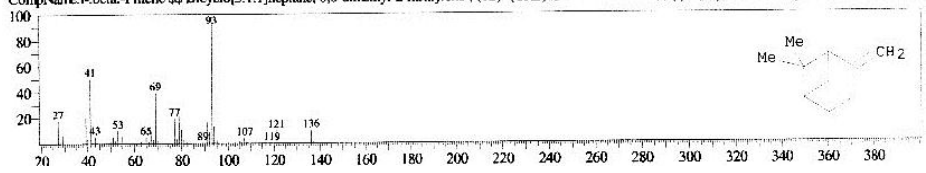
SI:98 Formula:C10 H16 CAS:80-56-8 MolWeight:136 RetIndex:0
CompName:.ALPHA.-PINENE, (-)- $$ Bicyclo[3.1.1]hept-2-ene, 2,6,6-trimethyl- (CAS) Pinene $$ 2-Pinene $$ .alpha.-Pinene $$ 2,6,6-Trimethylbicyclo[3.1.1]



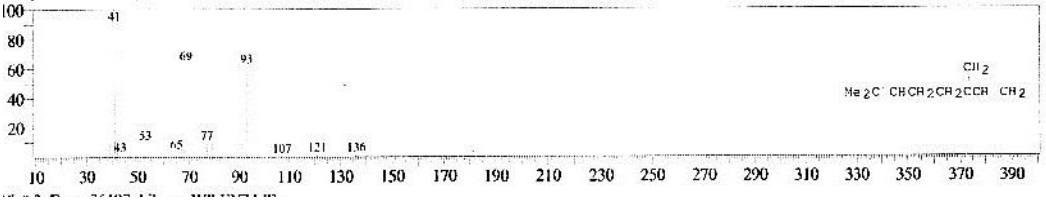
SI:97 Formula:C10 H16 CAS:555-10-2 MolWeight:136 RetIndex:0
CompName:.beta.-Phellandrene $$ Cyclohexene, 3-methylene-6-(1-methylethyl)- (CAS) 3-ISOPROPYL-6-METHYLENE-CYCLOHEXENE, 2-PARA-MENTI



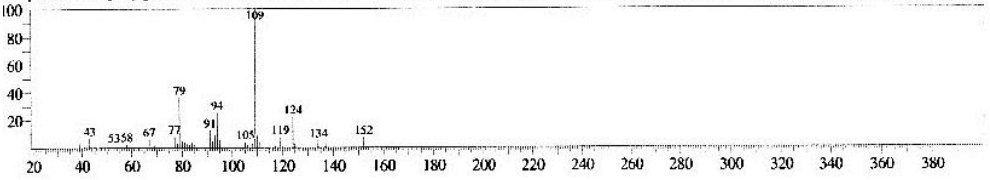
SI:97 Formula:C10 H16 CAS:18172-67-3 MolWeight:136 RetIndex:0
CompName:l-.beta.-Pinene $$ Bicyclo[3.1.1]heptane, 6,6-dimethyl-2-methylene-, (1S)- (CAS) .BETA.-PINENE $$ (-)-2(10)-Pinene $$ (-)-.beta.-Pinene $$ 2(1(



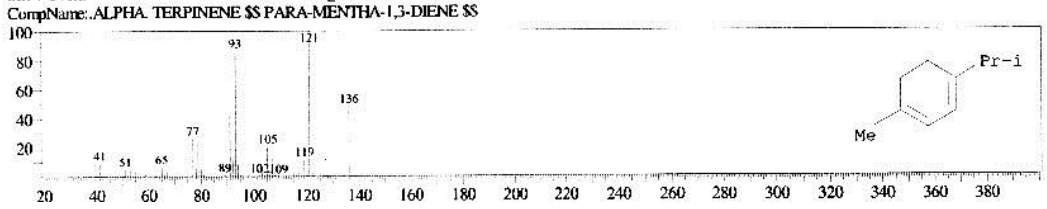
SI:96 Formula:C10 H16 CAS:123-35-3 MolWeight:136 RetIndex:0
CompName:.beta.-Myrcene $$ 1,6-Octadiene, 7-methyl-3-methylene- (CAS) 2-Methyl-6-methylene-2,7-octadiene $$ 2-ETHENYL-6-METHYL-1,5-HEPTADIE



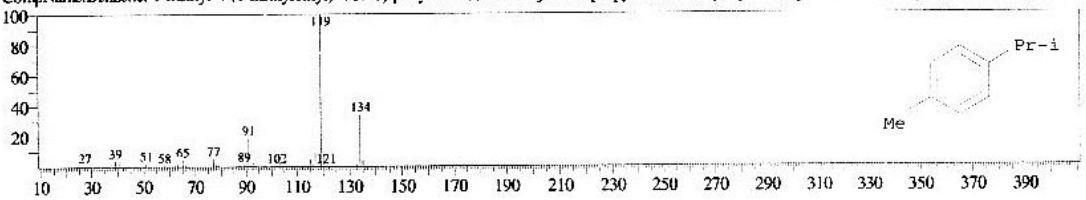
SI:85 Formula:C10 H16 O CAS:92760-25-3 MolWeight:152 RetIndex:0
CompName:1,8-Epoxy-p-menth-2-ene $$ 2-Dehydro-1,8-cineole $$ 2,3-Dehydro-1,8-cineole $$ 2-Oxabicyclo[2.2.2]oct-5-ene, 1,3,3-trimethyl- (CAS) Dehydro



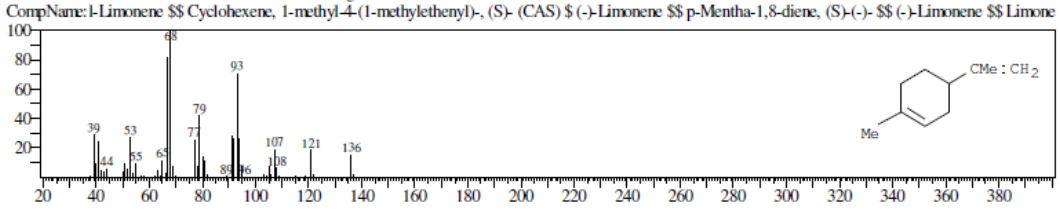
SI:94 Formula:C10 H16 CAS:99-86-5 MolWeight:136 RetIndex:0
CompName:.ALPHA. TERPINENE $$ PARA-MENTHA-1,3-DIENE $$



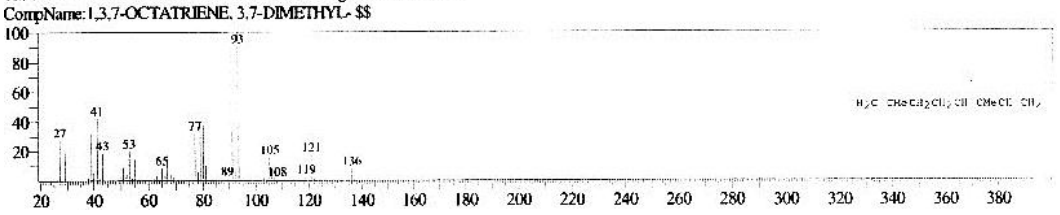
SI:95 Formula:C10 H14 CAS:99-87-6 MolWeight:134 RetIndex:0
CompName:Benzene, 1-methyl-4-(1-methylethyl)- (CAS) p-Cymene $$ 1-Methyl-4-isopropylbenzene $$ p-Cymol $$ p-Cimene $$ Camphogen $$ Dolcymene $



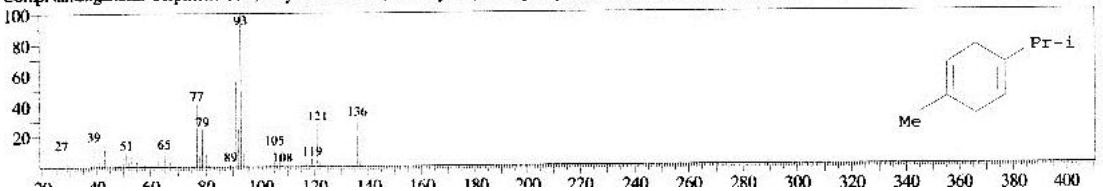
SI:97 Formula:C10 H16 CAS:5989-54-8 MolWeight:136 RetIndex:0
CompName:l-Limonene $$ Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (S)- (CAS) $ (-)-Limonene $$ p-Mentha-1,8-diene, (S)-(-)- $$ (-)-Limonene $$ Limone



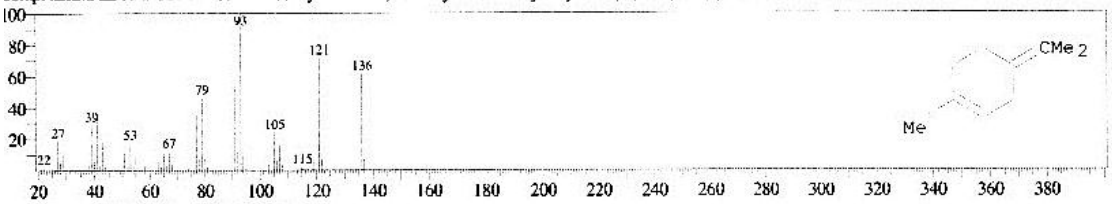
SI:97 Formula:C10 H16 CAS:502-99-8 MolWeight:136 RetIndex:0
CompName:1,3,7-OCTATRIENE, 3,7-DIMETHYL- $$



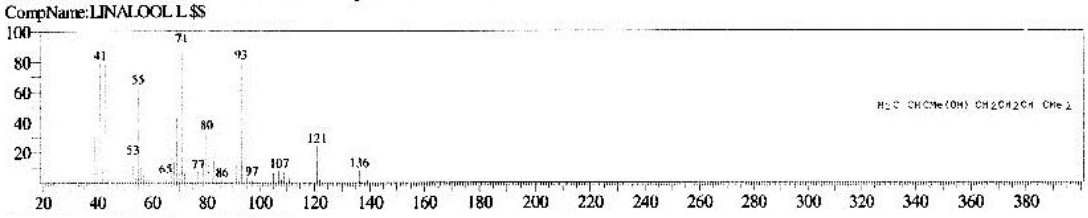
SI:96 Formula:C10 H16 CAS:99-85-4 MolWeight:136 RetIndex:0
CompName:.gamma.-Terpinene $$ 1,4-Cyclohexadiene, 1-methyl-4-(1-methylethyl)- (CAS) 1-ISOPROPYL-4-METHYL-1,4-CYCLOHEXADIENE $$ Moslen



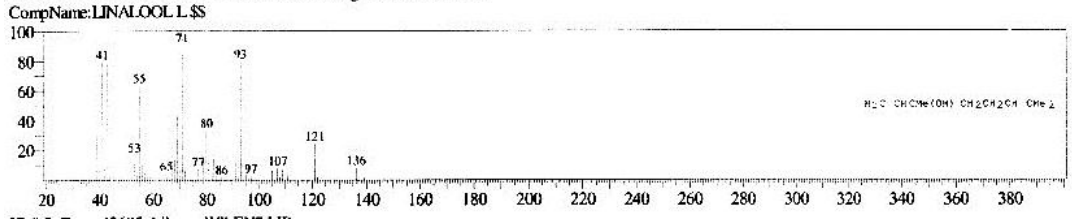
SI:93 Formula:C10 H16 CAS:586-62-9 MolWeight:136 RetIndex:0
CompName:.ALPHA.-TERPINOLENE $$ Cyclohexene, 1-methyl-4-(1-methylethylidene)- (CAS) 1,4(8)-P-MENTHADIENE $$ 1-METHYLENE-4-ISOPROP



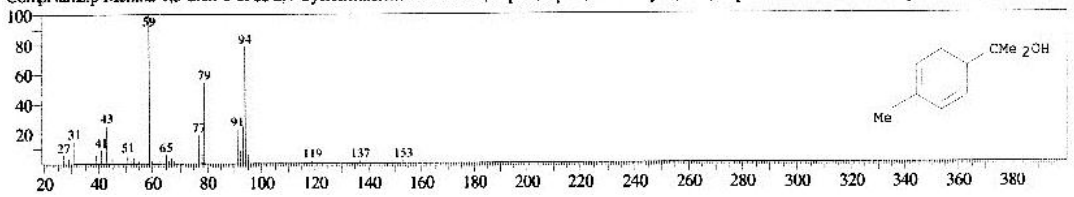
SI:95 Formula:C10 H18 O CAS:78-70-6 MolWeight:154 RetIndex:0
CompName:LINALOOL L $$



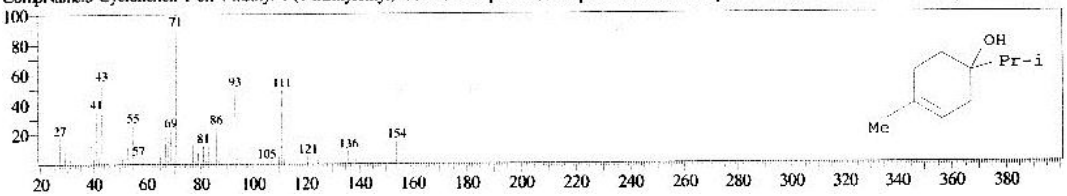
SI:95 Formula:C10 H18 O CAS:78-70-6 MolWeight:154 RetIndex:0
CompName:LINALOOL L $$



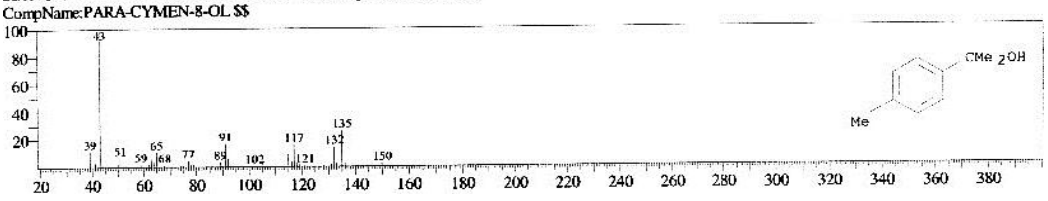
SI:91 Formula:C10 H16 O CAS:1686-20-0 MolWeight:152 RetIndex:0
CompName:p-Mentha-1,5-dien-8-ol $$ 2,4-Cyclohexadiene-1-methanol, .alpha.,.alpha.,4-trimethyl- (CAS) .alpha.-Phellandren-8-ol $$ p-Menth-1,5-dien-8-ol S



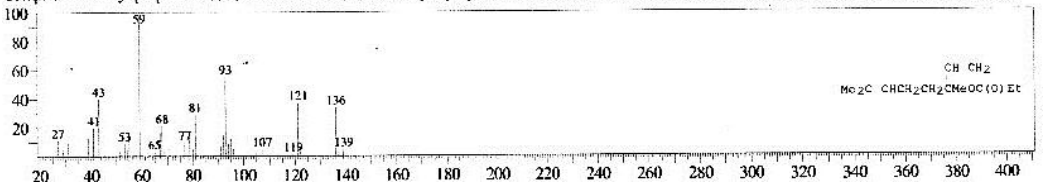
SI:97 Formula:C10 H18 O CAS:562-74-3 MolWeight:154 RetIndex:0
CompName:3-Cyclohexen-1-ol, 4-methyl-1-(1-methylethyl)- (CAS) 4-Terpineol $$ Terpinene-4-ol $$ 1-Terpinen-4-ol $$ 4-Carvomenthenol $$ p-Menth-1-en-4



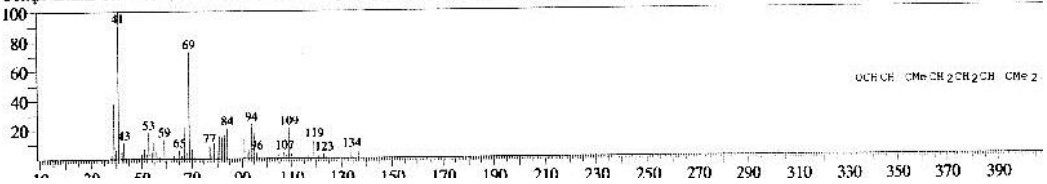
SI:89 Formula:C10 H14 O CAS:1197-01-9 MolWeight:150 RetIndex:0
CompName:PARA-CYMEN-8-OL $$



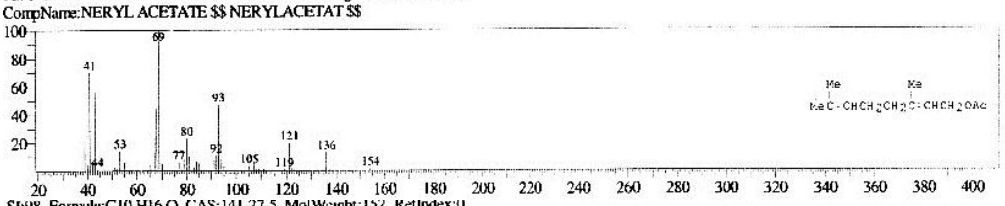
SI:96 Formula:C13 H22 O2 CAS:144-39-8 MolWeight:210 RetIndex:0
CompName:Linalyl propionate $$ 1,6-Octadien-3-ol, 3,7-dimethyl-, propanoate (CAS) Linalyl propanoate $$ 1,6-Octadien-3-ol, 3,7-dimethyl-, propionate $$



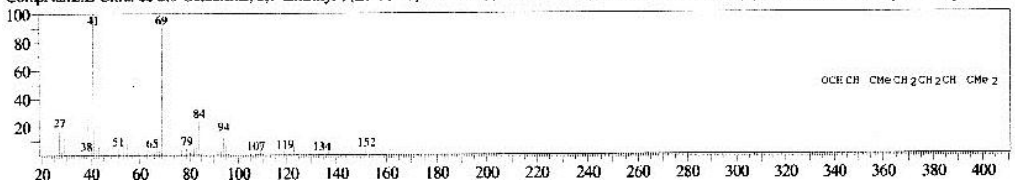
SI:97 Formula:C10 H16 O CAS:106-26-3 MolWeight:152 RetIndex:0
CompName:Z-Citral $$ 2,6-Octadienal, 3,7-dimethyl-, (Z)- (CAS) Neral $$ .beta.-Citral $$ cis-Citral $$ Citral b $$ cis-3,7-Dimethyl-2,6-octadienal $$ (Z)-3,7-



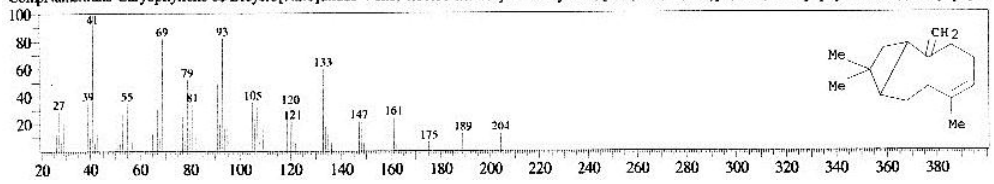
SI:95 Formula:C12 H20 O2 CAS:141-12-8 MolWeight:196 RetIndex:0
CompName:NERYL ACETATE $$ NERYLACETAT $$



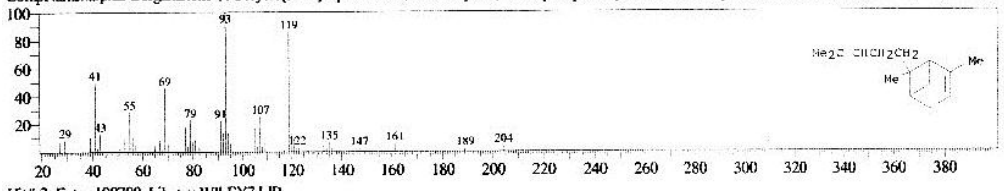
SI:98 Formula:C10 H16 O CAS:141-27-5 MolWeight:152 RetIndex:0
CompName:E-Citral $$ 2,6-Octadienal, 3,7-dimethyl-, (E)- (CAS) Geranial $$ trans-Citral $$ Citral a $$ Citral-a $$ (E)-Citral $$ Geranaldehyde $$ .alpha.-Citr



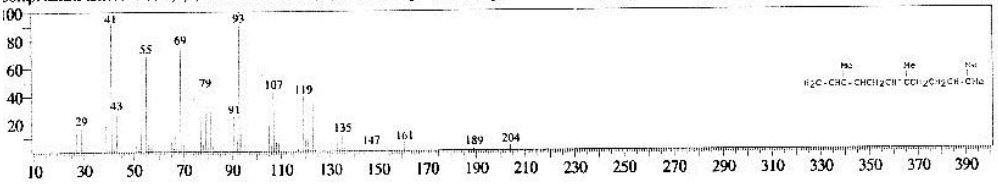
SI:96 Formula:C15 H24 CAS:87-44-5 MolWeight:204 RetIndex:0
CompName:trans-Caryophyllene $$ Bicyclo[7.2.0]undec-4-ene, 4,11,11-trimethyl-8-methylene-, [1R-(1R*,4E,9S*)]- (CAS) 1-Caryophyllene $$ (-)-Caryophylle



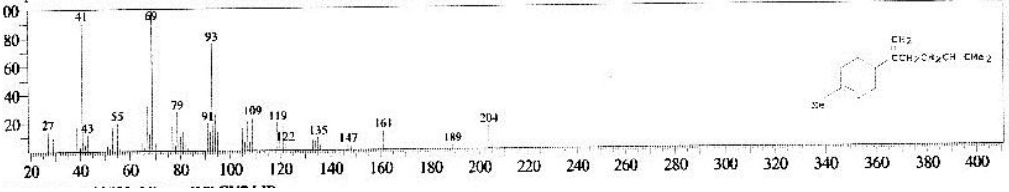
SI:96 Formula:C15 H24 CAS:17699-05-7 MolWeight:204 RetIndex:0
CompName:.alpha.-Bergamotene $$ Bicyclo[3.1.1]hept-2-ene, 2,6-dimethyl-6-(4-methyl-3-pentenyl)- (CAS) 2-Norpinene, 2,6-dimethyl-6-(4-methyl-3-pentenyl



SI:96 Formula:C15 H24 CAS:502-61-4 MolWeight:204 RetIndex:0
CompName:Farnesene $$ 1,3,6,10-Dodecatetraene, 3,7,11-trimethyl- (CAS) .alpha.-Farnesene $$ 2,6,10-Trimethyl-2,6,9,11-dodecatetraene $$ 3,7,11-Trimethyl



SI:96 Formula:C15 H24 CAS:495-61-4 MolWeight:204 RetIndex:0
CompName:.beta.-Bisabolene $$ Cyclohexene, 1-methyl-4-(5-methyl-1-methylene-4-hexenyl)-, (S)- (CAS) 1-.beta.-Bisabolene $$ 1,5-Heptadiene, 6-methyl-2-(



Lampiran 11. Lembar kuisioner uji kesukaan dan uji ketahanan wangi

1. Uji kesukaan

Lembar Penilaian Uji Kesukaan

Nama :

Judul : PENGARUH PENAMBAHAN MINYAK AKAR WANGI SEBAGAI FIKSATIF TERHADAP KETAHANAN WANGI DALAM GEL PENGHARUM RUANGAN MINYAK JERUK NIPIS

Instruksi : Dihadapan saudara tersedia sediaan gel pengharum ruangan dengan formula yang berbeda. Tugas saudara adalah menilai aroma wangi dari masing-masing sediaan dengan cara sampel diposisikan 20 cm dari hidung lalu dicium aromanya dengan mengibaskan-ngibaskan tangan kearah hidung sebanyak 2-3x. Berikan pendapat anda tentang wangi sediaan gel pengharum ruangan yang diuji dengan memberikan tanda centang (✓) pada salah satu kolom (SS/S/CS/KS/TS) yang tersedia.

Formula	Penilaian				
	SS	S	CS	KS	TS
1					
2					
3					
4					
Kontrol (-)					
Control (+)					

Keterangan :
Nilai 5 = Sangat Suka (SS)
Nilai 4 = Suka (S)
Nilai 3 = Cukup Suka (CS)
Nilai 2 = Kurang Suka (KS)
Nilai 1 = Tidak Suka (TS)

Surakarta, 2019

Peneliti

Panelis

Palupi Yuliani

....

2. Uji ketahanan wangi

Lembar Penilaian Uji Ketahanan Wangi

Minggu I/Minggu II/MingguIII/Minggu IV
RuanganAC/Kipas Angin/Ruang Biasa
*Coret yang tidak perlu**

Nama :

Judul : PENGARUH PENAMBAHAN MINYAK AKAR WANGI SEBAGAI FIKSATIF TERHADAP KETAHANAN WANGI DALAM GEL PENGHARUM RUANGAN MINYAK JERUK NIPIS

Instruksi : Dihadapan saudara tersedia sediaan gel pengharum ruangan dengan formula yang berbeda. Tugas saudara adalah menilai ketahanan wangi dari masing-masing sediaan dengan cara sampel diposisikan 20 cm dari hidung lalu dicium aromanya dengan mengibaskan-ibaskan tangan kearah hidung sebanyak 2-3x dan dibandingkan wanginya dengan standar/pembanding yang telah disiapkan. Berikan pendapat anda tentang ketahanan aroma wangi sediaan gel pengharum ruangan yang diuji, kemudian berilah tanda centang (✓) pada salah satu kolom (SW/SKW/KW/SGW/TW) yang tersedia.

Formula	Penilaian				
	SW	W	AW	AKW	STW
1					
2					
3					
4					
kontrol (-)					
kontrol (+)					

Keterangan :
Nilai 5 = Sangat Wangi (SW)
Nilai 4 = wangi (Wangi)
Nilai 3 = agak wangi (AW)
Nilai 2 = Agak Kurang Wangi (AGW)
Nilai 1 = Sangat Tidak Wangi (TW)

Surakarta, 2019

Peneliti Panelis

Palupi Yuliani
....