

## **BAB V**

### **PENUTUP**

#### **A. Kesimpulan**

Penelitian yang dilaksanakan menyimpulkan:

1. 5 Sampel sari buah berwarna kuning yang beredar di wilayah Kelurahan Mojosongo, Jebres, Surakarta 2 diantaranya mengandung pewarna sintetis tartrazin.
2. Berdasarkan pengujian yang telah dilakukan didapatkan kadar zat warna tartrazin dalam sampel uji minuman sari buah kode B sebesar 2,02 gram/100,0 mL  $\pm$  0,01 dan sampel uji kode C didapatkan kadar tartrazin sebesar 0,63 gram/100,0 mL  $\pm$  0,0212.
3. Zat warna tartrazin dalam sampel minuman sari buah di wilayah Kelurahan Mojosongo Kecamatan Jebres Surakarta tidak memenuhi persyaratan ADI (*Acceptable Daily Intake*) yaitu 0-7,5 mg/kg BB yang telah ditetapkan oleh Peraturan Kepala Badan Pengawas Obat Dan Makanan Republik Indonesia Nomor 37 Tahun 2013 Tentang Batas Maksimum Penggunaan Bahan Tambahan Pangan Pewarna.

#### **B. Saran**

1. Dilakukan penelitian mengenai pewarna pada pangan dengan metode yang lain.

2. Dilakukan penelitian zat pewarna berbahaya pada produk pangan di wilayah lain.

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**Lampiran 1.** Perhitungan Kualitatif dan Pembuatan Fase Gerak.

1. Pembuatan fase gerak sebanyak 100,0 mL dalam chamber.

$$\text{Serbuk tri natrium citrat (2)} = \frac{2}{102} \times 100,0 \text{ mL} = 1,96 \text{ gram}$$

$$\text{Aquadestilata (95)} = \frac{95}{102} \times 100,0 \text{ mL} = 93,1 \text{ mL}$$

$$\text{Ammonia pekat (5)} = \frac{5}{102} \times 100,0 \text{ mL} = 4,9 \text{ mL}$$

2. Perhitungan nilai Rf

$$\text{Nilai Rf} = \frac{\text{Jarak yang ditempuh substansi}}{\text{jarak yang ditempuh pelarut}}$$

$$\text{Baku tartrazin} = \frac{9,3 \text{ cm}}{10 \text{ cm}} = 0,93$$

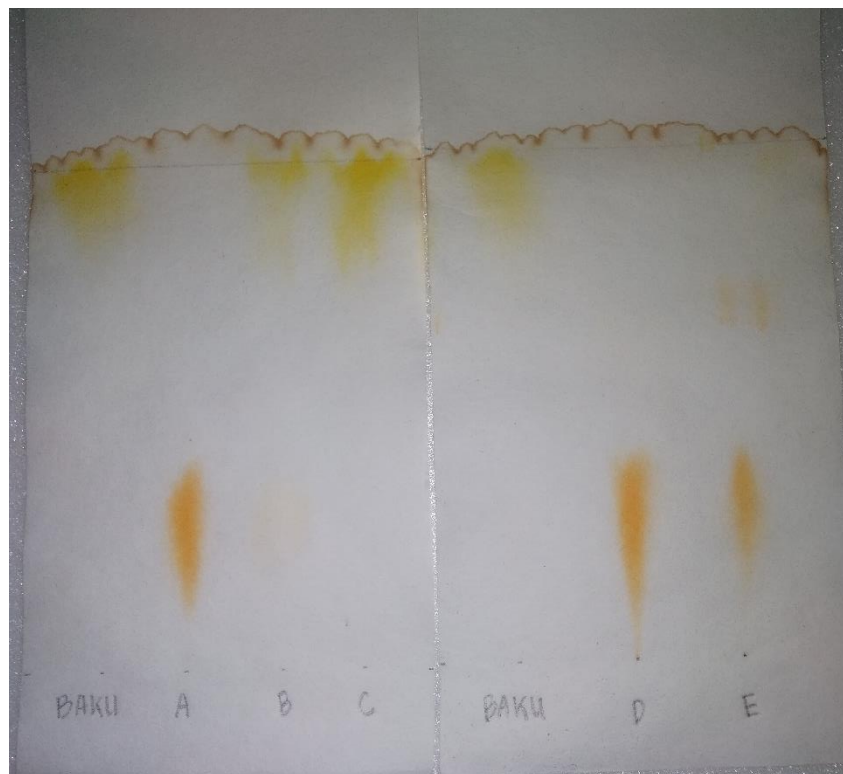
$$\text{Sampel A} = \frac{2,4 \text{ cm}}{10 \text{ cm}} = 0,24$$

$$\text{Sampel B} = \frac{9 \text{ cm}}{10 \text{ cm}} = 0,90$$

$$\text{Sampel C} = \frac{9 \text{ cm}}{10 \text{ cm}} = 0,90$$

$$\text{Sampel D} = \frac{2,1 \text{ cm}}{10 \text{ cm}} = 0,21$$

$$\text{Sampel E} = \frac{2,6 \text{ cm}}{10 \text{ cm}} = 0,26$$



**Gambar bercak kualitatif kromatografi kertas**

## Lampiran 2. Pembuatan Larutan Standar Tartrazin.

### 1. Pembuatan larutan baku Tartrazin 1024 ppm

$$\begin{array}{r} \text{kertas} + \text{zat} = 0,3752 \text{ gram} \\ \text{kertas} + \text{sisa} = 0,2728 \text{ gram} \\ \hline \text{berat zat} = 0,1024 \text{ gram} \end{array}$$

102,4 mg dimasukkan ke dalam 100,0 mL labu ukur tambahkan aquadestilata sampai tanda batas.

### 2. Pembuatan larutan seri konsentrasi dari stok baku 1024 ppm

#### 2.1. Pembuatan larutan standart 6,14 ppm

$$\begin{aligned} V_{(\text{baku})} \times C_{(\text{baku})} &= V_{(\text{pembuatan})} \times C_{(\text{pembuatan})} \\ 0,150 \text{ mL} \times 1024 \text{ ppm} &= 25,0 \text{ mL} \times C_2 \\ C_2 &= \frac{0,150 \times 1024}{25} \\ &= 6,14 \text{ ppm} \end{aligned}$$

Dipipet larutan stok baku tartrazin 1024ppm sebanyak 0,150 mL dimasukkan kedalam labu takar 25,0 mL. Ditambahkan aquadestilata sampai dengan 25,0 mL.

#### 2.2. Pembuatan larutan standart 8,19 ppm

$$\begin{aligned} V_{(\text{baku})} \times C_{(\text{baku})} &= V_{(\text{pembuatan})} \times C_{(\text{pembuatan})} \\ 0,200 \text{ mL} \times 1024 \text{ ppm} &= 25,0 \text{ mL} \times C_2 \\ C_2 &= \frac{0,200 \times 1024}{25} \end{aligned}$$



$$= 8,19 \text{ ppm}$$

Dipipet larutan stok baku tartrazin 1024ppm sebanyak 0,200 mL dimasukkan kedalam labu takar 25,0 mL. Ditambahkan aquadestilata sampai dengan 25,0 mL.

### 2.3.Pembuatan larutan standart 10,24 ppm

$$V_{\text{(baku)}} \times C_{\text{(baku)}} = V_{\text{(pembuatan)}} \times C_{\text{(pembuatan)}}$$

$$0,250 \text{ mL} \times 1024 \text{ ppm} = 25,0 \text{ mL} \times C_2$$

$$C_2 = \frac{0,250 \times 1024}{25}$$

$$= 10,24 \text{ ppm}$$

Dipipet larutan stok baku tartrazin 1024ppm sebanyak 0,250 mL dimasukkan kedalam labu takar 25,0 mL. Ditambahkan aquadestilata sampai dengan 25,0 mL.

### 2.4.Pembuatan larutan standart 12,29 ppm

$$V_{\text{(baku)}} \times C_{\text{(baku)}} = V_{\text{(pembuatan)}} \times C_{\text{(pembuatan)}}$$

$$0,300 \text{ mL} \times 1024 \text{ ppm} = 25,0 \text{ mL} \times C_2$$

$$C_2 = \frac{0,300 \times 1024}{25}$$

$$= 12,29 \text{ ppm}$$

Dipipet larutan stok baku tartrazin 1024ppm sebanyak 0,300 mL dimasukkan kedalam labu takar 25,0 mL. Ditambahkan aquadestilata sampai dengan 25,0 mL.

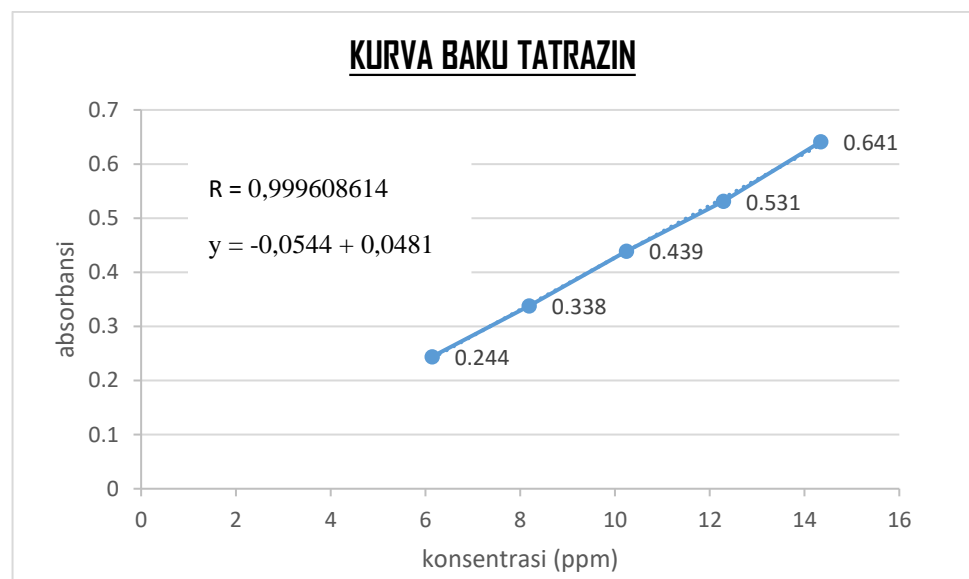
#### 2.5.Pembuatan larutan standart 14,34 ppm

$$\begin{aligned}
 V_{(\text{baku})} \times C_{(\text{baku})} &= V_{(\text{pembuatan})} \times C_{(\text{pembuatan})} \\
 0,350 \text{ mL} \times 1024 \text{ ppm} &= 25,0 \text{ mL} \times C_2 \\
 C_2 &= \frac{0,350 \times 1024}{25} \\
 &= 14,34 \text{ ppm}
 \end{aligned}$$

Dipipet larutan stok baku tartrazin 1024ppm sebanyak 0,350 mL dimasukkan kedalam labu takar 25,0 mL. Ditambahkan aquadestilata sampai dengan 25,0 mL.

**Lampiran 3.** Kurva kalibrasi baku standar.

Konsentrasi (ppm)	Absorbansi
6,14	0,244
8,19	0,338
10,24	0,439
12,29	0,531
14,34	0,641
R	0,999608614
a	-0,0544
b	0,0481



**Lampiran 4.** Data dan Perhitungan Akurasi

Konsentrasi (ppm)	Absorbansi
8,19 (1)	0,351
8,19 (2)	0,352
8,19 (3)	0,351
10,24 (1)	0,450
10,24 (2)	0,449
10,24 (3)	0,449
12,29 (1)	0,540
12,29 (2)	0,540
12,29 (3)	0,541

## 1. Perhitungan Kadar Terhitung (x)

$$\begin{aligned}
 1.1. \text{Larutan } 8,19 \text{ ppm (1)} \quad x &= \frac{y-a}{b} \\
 &= \frac{0,351 - (-0,0544)}{0,0481} \\
 &= 8,4283
 \end{aligned}$$

$$\begin{aligned}
 1.2. \text{Larutan } 8,19 \text{ ppm (2)} \quad x &= \frac{y-a}{b} \\
 &= \frac{0,352 - (-0,0544)}{0,0481} \\
 &= 8,4491
 \end{aligned}$$

$$\begin{aligned} 1.3. \text{Larutan } 8,19 \text{ ppm (3) } x &= \frac{y-a}{b} \\ &= \frac{0,351 - (-0,0544)}{0,0481} \\ &= 8,4283 \end{aligned}$$

$$\begin{aligned} 1.4. \text{Larutan } 10,24 \text{ ppm(1) } x &= \frac{y-a}{b} \\ &= \frac{0,450 - (-0,0544)}{0,0481} \\ &= 10,4865 \end{aligned}$$

$$\begin{aligned} 1.5. \text{Larutan } 10,24 \text{ ppm(2) } x &= \frac{y-a}{b} \\ &= \frac{0,449 - (-0,0544)}{0,0481} \\ &= 10,4657 \end{aligned}$$

$$\begin{aligned} 1.6. \text{Larutan } 10,24 \text{ ppm(3) } x &= \frac{y-a}{b} \\ &= \frac{0,449 - (-0,0544)}{0,0481} \\ &= 10,4657 \end{aligned}$$

$$\begin{aligned} 1.7. \text{Larutan } 12,29 \text{ ppm(1) } x &= \frac{y-a}{b} \\ &= \frac{0,540 - (-0,0544)}{0,0481} \\ &= 12,3576 \end{aligned}$$

$$\begin{aligned} 1.8. \text{Larutan } 12,29 \text{ ppm(2) } x &= \frac{y-a}{b} \\ &= \frac{0,540 - (-0,0544)}{0,0481} \\ &= 12,3576 \end{aligned}$$

$$\begin{aligned}
 1.9. \text{Larutan } 12,29 \text{ ppm}(3) \times &= \frac{y-a}{b} \\
 &= \frac{0,541 - (-0,0544)}{0,0481} \\
 &= 12,3784
 \end{aligned}$$

## 2. Perhitungan Akurasi (%)

### Rumus

$$\text{Akurasi} = \frac{\text{kadar Terhitung}}{\text{kadar Diketahui}} \times 100\%$$

$$\begin{aligned}
 2.1. \text{ Larutan } 8,19 \text{ ppm (1)} &= \frac{8,4283}{8,19} \times 100\% \\
 &= 102,91\%
 \end{aligned}$$

$$\begin{aligned}
 2.2. \text{ Larutan } 8,19 \text{ ppm (2)} &= \frac{8,4491}{8,19} \times 100\% \\
 &= 103,16\%
 \end{aligned}$$

$$\begin{aligned}
 2.3. \text{ Larutan } 8,19 \text{ ppm (3)} &= \frac{8,4283}{8,19} \times 100\% \\
 &= 102,91\%
 \end{aligned}$$

$$\begin{aligned}
 2.4. \text{ Larutan } 10,24 \text{ ppm (1)} &= \frac{10,4865}{10,24} \times 100\% \\
 &= 102,41\%
 \end{aligned}$$

$$\begin{aligned}
 2.5. \text{ Larutan } 10,24 \text{ ppm (2)} &= \frac{10,4657}{10,24} \times 100\% \\
 &= 102,20\%
 \end{aligned}$$

$$\begin{aligned}
 2.6. \text{ Larutan } 10,24 \text{ ppm (2)} &= \frac{10,4657}{10,24} \times 100\% \\
 &= 102,20\%
 \end{aligned}$$

$$2.7. \text{ Larutan } 12,29 \text{ ppm (1)} = \frac{12,3576}{12,29} \times 100\%$$

$$= 100,55\%$$

$$2.8. \text{ Larutan } 12,29\text{ppm (2)} = \frac{12,3576}{12,29} \times 100\%$$

$$= 100,55\%$$

$$2.9. \text{ Larutan } 12,29\text{ppm (1)} = \frac{12,3784}{12,29} \times 100\%$$

$$= 100,72\%$$

Konsentrasi (ppm)	Absorbansi	%	Rata-rata	% CV
8,19	0,351	102,91		
8,19	0,352	103,16	102,99	
8,19	0,351	102,91		
10,24	0,450	102,41		
10,24	0,449	102,20	102,27	101,96
10,24	0,449	102,20		
12,29	0,540	100,55		
12,29	0,540	100,55	100,61	
12,29	0,541	100,72		

### Lampiran 5. Data dan Perhitungan Presisi

Konsentrasi Baku (ppm)	Absorbansi
10,24 (1)	0,449
10,24 (2)	0,447
10,24 (3)	0,447
10,24 (4)	0,449
10,24 (5)	0,448
10,24 (6)	0,448
10,24 (7)	0,447
10,24 (8)	0,448
10,24 (9)	0,448
10,24 (10)	0,448

#### 1. Perhitungan konsentrasi (x)

$$\begin{aligned}
 1.1. \text{Larutan } 10,24 \text{ ppm (1)} \quad x &= \frac{y-a}{b} \\
 &= \frac{0,449 - (-0,0544)}{0,0481} \\
 &= 10,4657
 \end{aligned}$$

$$\begin{aligned}
 1.2. \text{Larutan } 10,24 \text{ ppm (2)} \quad x &= \frac{y-a}{b} \\
 &= \frac{0,447 - (-0,0544)}{0,0481} \\
 &= 10,4241
 \end{aligned}$$

$$\begin{aligned}
 1.3. \text{Larutan } 10,24 \text{ ppm (3)} \quad x &= \frac{y-a}{b} \\
 &= \frac{0,447 - (-0,0544)}{0,0481}
 \end{aligned}$$



$$= 10,4241$$

1.4.Larutan 10,24 ppm (4)

$$x = \frac{y-a}{b}$$

$$= \frac{0,449-(-0,0544)}{0,0481}$$

$$= 10,4657$$

1.5.Larutan 10,24 ppm (5)

$$x = \frac{y-a}{b}$$

$$= \frac{0,448-(-0,0544)}{0,0481}$$

$$= 10,4449$$

1.6.Larutan 10,24 ppm (6)

$$x = \frac{y-a}{b}$$

$$= \frac{0,448-(-0,0544)}{0,0481}$$

$$= 10,4449$$

1.7.Larutan 10,24 ppm (7)

$$x = \frac{y-a}{b}$$

$$= \frac{0,447-(-0,0544)}{0,0481}$$

$$= 10,4241$$

1.8.Larutan 10,24 ppm (8)

$$x = \frac{y-a}{b}$$

$$= \frac{0,448-(-0,0544)}{0,0481}$$

$$= 10,4449$$

1.9.Larutan 10,24 ppm (9)

$$x = \frac{y-a}{b}$$

$$= \frac{0,448-(-0,0544)}{0,0481}$$

$$= 10,4449$$

$$\begin{aligned}
 1.10. \text{ Larutan } 10,24 \text{ ppm (10)} \quad x &= \frac{y-a}{b} \\
 &= \frac{0,448 - (-0,0544)}{0,0481} \\
 &= 10,4449
 \end{aligned}$$

Abs	X (ppm)	$\bar{x}$	$(\bar{x} - x)^2$	$\sum(\bar{x} - x)^2$	SD	RSD
0,449	10,4657		0,000523			
0,447	10,4241		0,000350			
0,447	10,4241		0,000350			
0,449	10,4657		0,000523			
0,448	10,4449	10,4428	0,000004	0,0021	0,0153	0,0015
0,448	10,4449		0,000004			
0,447	10,4241		0,000350			
0,448	10,4449		0,000004			
0,448	10,4449		0,000004			
0,448	10,4449		0,000004			

**Lampiran 6.** Perhitungan LOD dan LOQ

ppm	Abs (y)	y1	y-y1	(y-y1) <sup>2</sup>	$\sum(y-y1)^2$
6,14	0,244	0,2409	0,0031	$9,6 \times 10^{-6}$	0,000015304
8,19	0,338	0,3395	-0,0015	$2,3 \times 10^{-6}$	
10,24	0,439	0,4381	0,0009	$8,1 \times 10^{-7}$	
12,29	0,531	0,5367	-0,0057	$3,2 \times 10^{-5}$	
14,34	0,641	0,6354	0,0056	$3,1 \times 10^{-5}$	
<b>SD</b>	0,0023				
<b>LOD</b>	0,1578				
<b>LOQ</b>	0,4782				

$$SD = \frac{\sum(y-y1)^2}{n-2} = \frac{0,000015304}{3} = \sqrt{0,0000051013} = 0,0023$$

$$LOD = \frac{SD \times 3,3}{Slope (b)} = \frac{0,0023 \times 3,3}{0,0481} = 0,1578$$

$$LOQ = \frac{SD \times 10}{Slope (b)} = \frac{0,0023 \times 10}{0,0481} = 0,4782$$

## Lampiran 7. Perhitungan Kadar Tartrazin

### 1. Perhitungan kadar sampel sari buah (B)

#### 1.1.Replikasi 1

Berat sampel : 50,4247 gram

Abs : 0,339

$$y = a + b x$$

$$0,339 = -0,0544 + 0,0481 x$$

$$x = \frac{0,339 - (-0,0544)}{0,0481}$$

$$x = 8,1788 \text{ mg/L (ppm)}$$

$$\text{Kadar tartrazin} = \frac{X \times \text{volume pembuatan} \times \text{faktor pengenceran}}{\text{Berat sampel}} \times 100 \%$$

$$= \frac{8,1788 \text{ mg/L} \times 0,025 \text{ L} \times 5}{50,4247 \text{ gram}} \times 100 \%$$

$$= 2,03 \% \text{ atau } 2,03 \text{ gram/ } 100,0 \text{ mL}$$

#### 1.2.Replikasi 2

Berat sampel : 50,3997 gram

Abs : 0,335

$$y = a + b x$$

$$0,335 = -0,0544 + 0,0481 x$$

$$x = \frac{0,335 - (-0,0544)}{0,0481}$$

$$x = 8,0956 \text{ mg/L (ppm)}$$

$$\text{Kadar tartrazin} = \frac{X \times \text{volume pembuatan} \times \text{faktor pengenceran}}{\text{Berat sampel}} \times 100 \%$$

$$= \frac{8,0956 \text{ mg/L} \times 0,025 \text{ L} \times 5}{50,3997 \text{ gram}} \times 100 \%$$

$$= 2,01 \% \text{ atau } 2,01 \text{ gram/ } 100,0 \text{ mL}$$

### 1.3.Replikasi 3

$$\text{Berat sampel} : 50,4112 \text{ gram}$$

$$\text{Abs} : 0,338$$

$$y = a + b x$$

$$0,338 = -0,0544 + 0,0481 x$$

$$x = \frac{0,338 - (-0,0544)}{0,0481}$$

$$x = 8,1580 \text{ mg/L (ppm)}$$

$$\text{Kadar tartrazin} = \frac{X \times \text{volume pembuatan} \times \text{faktor pengenceran}}{\text{Berat sampel}} \times 100 \%$$

$$= \frac{8,1580 \text{ mg/L} \times 0,025 \text{ L} \times 5}{50,4112 \text{ gram}} \times 100 \%$$

$$= 2,02\% \text{ atau } 2,02 \text{ gram/ } 100,0 \text{ mL}$$

#### 1.4. Perhitungan Rata-rata Sampel (B)

Rata-rata kadar tartrazin

$$\text{Rata-rata} = \frac{\text{Replikasi I} + \text{Replikasi II} + \text{Replikasi III}}{3}$$

$$= \frac{2,03 + 2,01 + 2,02}{3}$$

$$= 2,02 \% \text{ atau } 2,02 \text{ gram/ } 100,0 \text{ mL}$$

#### 1.5. Perhitungan standar deviasi sampel

Replikasi	$X_1$	$\bar{X}$	$X_1 - \bar{X}$	$(X_1 - \bar{X})^2$
B I	2,03		0,01	0,0001
B II	2,01	2,02	-0,01	0,0001
B III	2,02		0	0
			$\Sigma$	0,0002

$$SD = \sqrt{\frac{\Sigma(X - \bar{X})^2}{n-1}}$$

$$= \sqrt{\frac{0,0002}{2}}$$

$$= \sqrt{0,0001}$$

$$= 0,01$$

## 2. Perhitungan kadar sampel sari buah (C)

### 2.1.Replikasi 1

Berat sampel : 49,8779 gram

Abs : 0,543

$$Y = a + b x$$

$$0,543 = -0,0544 + 0,0481 x$$

$$x = \frac{0,543 - (-0,0544)}{0,0481}$$

$$x = 12,4199 \text{ mg/L (ppm)}$$

$$\text{Kadar tartrazin} = \frac{X \times \text{volume pembuatan} \times \text{faktor pengenceran}}{\text{Berat sampel}} \times 100 \%$$

$$= \frac{12,4199 \text{ mg/L} \times 0,025 \text{ L} \times 1}{49,8779 \text{ gram}} \times 100 \%$$

$$= 0,62 \% \text{ atau } 0,62 \text{ gram/ } 100,0 \text{ mL}$$

### 2.2.Replikasi 2

Berat sampel : 49,9634 gram

Abs : 0,571

$$Y = a + b x$$

$$0,571 = -0,0544 + 0,0481 x$$

$$x = \frac{0,571 - (-0,0544)}{0,0481}$$

$$x = 13,0021 \text{ mg/L (ppm)}$$

$$\text{Kadar tartrazin} = \frac{X \times \text{volume pembuatan} \times \text{faktor pengenceran}}{\text{Berat sampel}} \times 100 \%$$

$$= \frac{13,0021 \text{ mg/L} \times 0,025 \text{ L} \times 1}{49,9634 \text{ gram}} \times 100 \%$$

$$= 0,65 \% \text{ atau } 0,65 \text{ gram/ } 100,0 \text{ mL}$$

### 2.3.Replikasi 3

$$\text{Berat sampel} : 47,9062 \text{ gram}$$

$$\text{Abs} : 0,511$$

$$Y = a + b x$$

$$0,511 = -0,0544 + 0,0481 x$$

$$x = \frac{0,511 - (-0,0544)}{0,0481}$$

$$x = 11,7547 \text{ mg/L (ppm)}$$

$$\text{Kadar tartrazin} = \frac{X \times \text{volume pembuatan} \times \text{faktor pengenceran}}{\text{Berat sampel}} \times 100 \%$$

$$= \frac{11,7547 \text{ mg/L} \times 0,025 \text{ L} \times 1}{47,9062 \text{ gram}} \times 100 \%$$

$$= 0,61\% \text{ atau } 0,61 \text{ gram/ } 100,0 \text{ mL}$$



## 2.4. Perhitungan Rata-rata Sampel (C)

Rata- rata kadar tartrazin

$$\begin{aligned} \text{Rata- rata} &= \frac{\text{Replikasi I} + \text{Replikasi II} + \text{Replikasi III}}{3} \\ &= \frac{0,62 + 0,65 + 0,61}{3} \\ &= 0,63 \% \text{ atau } 0,63 \text{ gram/ } 100,0 \text{ mL} \end{aligned}$$

## 2.5. Perhitungan standar deviasi sampel.

Replikasi	$X_1$	$\bar{X}$	$X_1 - \bar{X}$	$(X_1 - \bar{X})^2$
C I	0,62		-0,01	0,0001
C II	0,65	0,63	0,02	0,0004
C III	0,61		-0,02	0,0004
			$\Sigma$	0,0009

$$\begin{aligned} \text{SD} &= \sqrt{\frac{\Sigma(X-\bar{X})^2}{n-1}} \\ &= \sqrt{\frac{0,0009}{2}} \\ &= \sqrt{0,00045} \\ &= 0,0212 \end{aligned}$$

## 3. Tabel kadar tartrazin.

Sampel	Replikasi	Berat sampel	Absorbansi	Persamaan regresi linier	X	Kadar tartrazin	Rata rata kadar
Sampel B	1	50,4247	0,339	$Y = A + Bx$ $= 0,213 + 0,0282x$	8,1788	2,03%	2,02%
	2	50,3997	0,335		8,0956	2,01%	
	3	50,4112	0,338		8,1580	2,02%	
Sampel C	1	49,8779	0,543		12,4199	0,62%	0,63%
	2	49,9634	0,571		13,0021	0,65%	
	3	47,9062	0,511		11,7547	0,61%	

**Lampiran 8.** Gambar bahan.



(Sampel uji A)



(Sampel uji B)



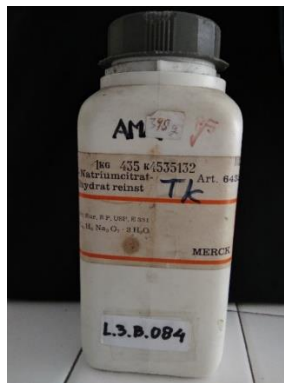
(Sampel uji C)



(Sampel uji D)



(Sampel uji E)



(Tri Natrium Citrat p.a)



(Zat warna tartrazin)



(Aquadestilata)

**Lampiran 9. Gambar Alat**

(Timbangan analitik)



(Spektrofotometer UV-Vis 1800 shimadzu)



(Mikropipet 100 $\mu$ L - 1000 $\mu$ L)



(Gelas ukur)



(Labu tentukur)

**Lampiran 10.** Proses Penelitian.

(Pengasaman sampel uji kualitatif)



(Pemekatan sampel uji kualitatif)



(Hasil preparasi sampel uji kualitatif)





(Totalan sampel uji diatas kertas kromatografi)



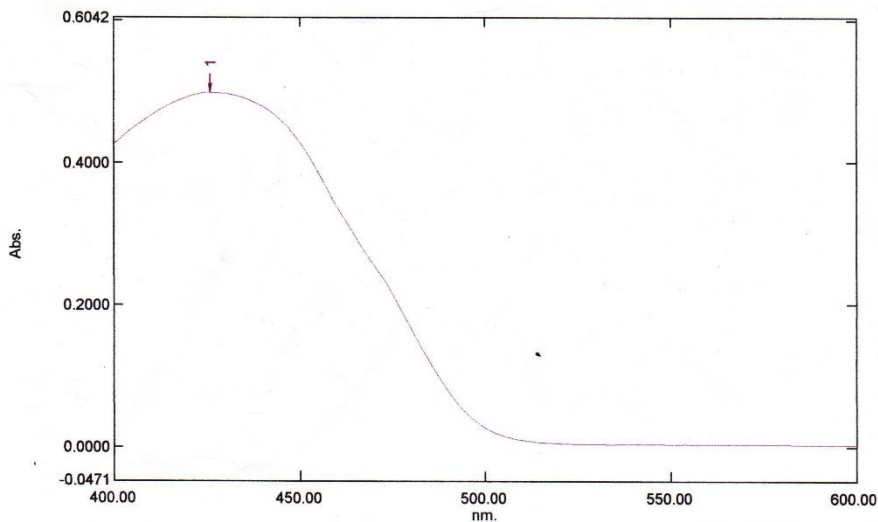
(Proses elusi totalan sampel uji)

## Lampiran 11. Spektrum panjang gelombang maksimum.

**Spectrum Peak Pick Report**

02/21/2019 11:03:07 AM

Data Set: 110124 - RawData



[Measurement Properties]  
 Wavelength Range (nm.): 400.00 to 600.00  
 Scan Speed: Medium  
 Sampling Interval: 1.0  
 Auto Sampling Interval: Disabled  
 Scan Mode: Auto

No.	P/V	Wavelength	Abs.	Description
1		426.00	0.4989	
2		534.00	0.0034	

[Instrument Properties]  
 Instrument Type: UV-1800 Series  
 Measuring Mode: Absorbance  
 Slit Width: 1.0 nm  
 Light Source Change Wavelength: 340.0 nm  
 S/R Exchange: Normal

[Attachment Properties]  
 Attachment: None

[Operation]  
 Threshold: 0.0010000  
 Points: 4  
 InterPolate: Disabled  
 Average: Disabled

[Sample Preparation Properties]  
 Weight:  
 Volume:  
 Dilution:  
 Path Length:  
 Additional Information: