

LAMPIRAN

Lampiran 1. Perhitungan Larutan

- a. Larutan induk vitamin C 1000 ppm dibuat dengan cara menimbang asam askorbat murni sebanyak 25 mg; masukkan dalam beker glass; tambahkan aquabidest sebanyak 25 ml dan homogenkan.
- b. Larutan standar dibuat dengan cara memipet 5 ml larutan induk; masukkan dalam labu ukur 50 ml; tambahkan aquabidest sampai tanda batas dan homogenkan; diperoleh konsentrasi 100 ppm. Kemudian dilakukan pembuatan kurva kalibrasi sebesar 2 ppm, 4 ppm, 6 ppm, 10 ppm.
- c. Perhitungan konsentrasi ppm

1. $V_1 \times K_1 = V_2 \times K_2$

$$K_2 = \frac{V_1}{V_2} \times K_1$$

$$K_2 = \frac{0,5}{25 \text{ ml}} \times 100 \text{ ppm}$$

$$K_2 = 2 \text{ ppm}$$

2. $V_1 \times K_1 = V_2 \times K_2$

$$K_2 = \frac{V_1}{V_2} \times K_1$$

$$K_2 = \frac{1}{25 \text{ ml}} \times 100 \text{ ppm}$$

$$K_2 = 4 \text{ ppm}$$

3. $V_1 \times K_1 = V_2 \times K_2$

$$K_2 = \frac{V_1}{V_2} \times K_1$$

$$K_2 = \frac{1,5}{25 \text{ ml}} \times 100 \text{ ppm}$$

$$K_2 = 6 \text{ ppm}$$

4. $V_1 \times K_1 = V_2 \times K_2$

$$K_2 = \frac{V_1}{V_2} \times K_1$$

$$K_2 = \frac{2}{25 \text{ ml}} \times 100 \text{ ppm}$$

$$K_2 = 8 \text{ ppm}$$

5. $V_1 \times K_1 = V_2 \times K_2$

$$K_2 = \frac{V_1}{V_2} \times K_1$$

$$K_2 = \frac{2,5}{25 \text{ ml}} \times 100 \text{ ppm}$$

$$K_2 = 10 \text{ ppm}$$

Lampiran 2. Kurva Kalibrasi Vitamin C

Konsentrasi (ppm)	Absorbansi			Rata-rata Absorbansi
	(1)	(2)	(3)	
2	0,769	0,769	0,769	0,769
4	1,602	1,601	1,597	1,600
6	2,830	2,859	2,934	2,874
8	3,521	3,538	3,283	3,447
10	3,658	3,405	3,294	3,452

Lampiran 3. Penentuan Kadar Vitamin C Pada Brokoli

Sampel	Absorbansi			Rata-rata Absorbansi
	(1)	(2)	(3)	
Brokoli mentah	4,000	3,661	3,508	3,706
Brokoli direbus 5 menit	3,735	3,508	3,597	3,613
Brokoli direbus 15 menit	2,057	2,055	2,047	2,053

Lampiran 4. Perhitungan Persamaan Regresi Linier

$$Y = bx + a$$

$$Y = 0,3607x + 0,2645$$

$$R^2 = 0,909$$

$$\text{Konsentrasi} = \frac{\text{massa zat pelarut (mg)}}{\text{Volume larutan (L)}}$$

$$= \frac{25 \text{ mg}}{0,025 \text{ L}}$$

$$= 1000 \text{ ppm}$$

1. Brokoli mentah

- $Y = 0,3607x + 0,2645$

$$3,706 = 0,3607x + 0,2645$$

$$x = \frac{3,706 - 0,2645}{0,3607}$$

$$x = \frac{3,441}{0,3607}$$

$$x = 11,221 \text{ ppm}$$

$$x = 11,221 \text{ mg/L}$$

- *Vitamin C = Konsentrasi × Volume melarutkan asam askorbat*

$$= 11,221 \text{ mg/L} \times 0,025 \text{ L}$$

$$= 0,280 \text{ mg}$$
- *Pengenceran 50 mL = 0,280 mg × 50*

$$= 14 \text{ mg}$$
- $\% \text{ Kadar} = \frac{\text{mg asam askorbat}}{\text{mg brokoli mentah}} \times 100\%$

$$= \frac{14 \text{ mg}}{25000 \text{ mg}} \times 100\%$$

$$= 0,056\%$$

2. Brokoli direbus 5 menit

- $Y = 0,3607x + 0,2645$

$$3,613 = 0,3607x + 0,2645$$

$$x = \frac{3,613 - 0,2645}{0,3607}$$

$$x = \frac{3,348}{0,3607}$$

$$x = 9,281 \text{ ppm}$$

$$x = 9,281 \text{ mg/L}$$
- *Vitamin C = Konsentrasi × Volume melarutkan asam askorbat*

$$= 9,281 \text{ mg/L} \times 0,025 \text{ L}$$

$$= 0,232 \text{ mg}$$
- *Pengenceran 50 mL = 0,232 mg × 50*

$$= 11,6 \text{ mg}$$
- $\% \text{ Kadar} = \frac{\text{mg asam askorbat}}{\text{mg brokoli direbus 5 menit}} \times 100\%$

$$= \frac{11,6 \text{ mg}}{25000 \text{ mg}} \times 100\%$$

$$= 0,046\%$$

3. Brokoli direbus 15 menit

- $Y = 0,3607x + 0,2645$

$$2,053 = 0,3607x + 0,2645$$

$$x = \frac{2,053 - 0,2645}{0,3607}$$

$$x = \frac{1,788}{0,3607}$$

$$x = 4,957 \text{ ppm}$$

$$x = 4,957 \text{ mg/L}$$

- *Vitamin C = Konsentrasi × Volume melarutkan asam askorbat*

$$= 4,957 \text{ mg/L} \times 0,025 \text{ L}$$

$$= 0,123 \text{ mg}$$

- *Pengenceran 50 mL = 0,123 mg × 50*

$$= 6,15 \text{ mg}$$

- $\% \text{ Kadar} = \frac{\text{mg asam askorbat}}{\text{mg brokoli direbus 15 menit}} \times 100\%$

$$= \frac{6,15 \text{ mg}}{25000 \text{ mg}} \times 100\%$$

$$= 0,00024\%$$

Lampiran 5. Gambar Penelitian



Proses perebusan brokoli



Brokoli mentah, direbus 5
menit, dan direbus 15 menit



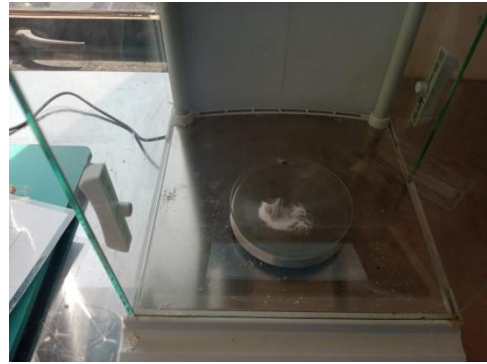
Menghaluskan brokoli



Penyaringan filtrat



Filtrat yang didapat



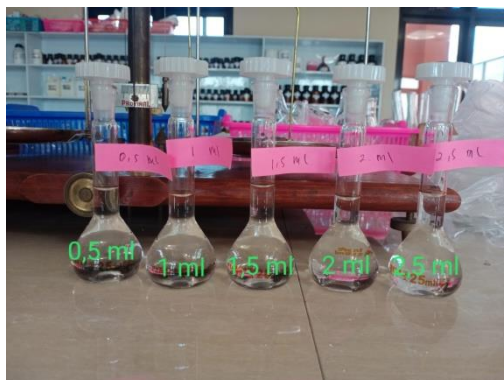
Penimbangan asam askorbat



Asam askorbat konsentrasi
1000ppm



Asam askorbat konsentrasi
100ppm



Kurva kalibrasi



Sampel brokoli



Sampel diletakkan pada kuvet