

LAMPIRAN

Lampiran 1 Perhitungan pembuatan larutan Induk 1000 ppm

Diketahui:

Konsentrasi: 1000 ppm

Volume: 50 ml

Ditanya: Berapa massa (mg) asam benzoat yang akan ditimbang?

Jawab :

$$\text{Ppm} = \frac{\text{massa zat (mg)}}{\text{volume larutan (L)}}$$

$$1000 \text{ ppm} = \frac{\text{massa zat (mg)}}{0,05 \text{ L}}$$

$$\text{Massa zat (mg)} = 1000 \text{ mg/L} \times 0,05 \text{ L}$$

$$\text{Massa zat (mg)} = 50 \text{ mg}$$

Jadi, massa asam benzoat yang harus ditimbang adalah 50 mg.

Lampiran 2 Perhitungan pembuatan larutan standar kerja 100 ppm

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

$$1000 \text{ ppm} \times V_1 = 100 \text{ ppm} \times 50 \text{ ml}$$

$$V_1 = \frac{100 \text{ ppm} \times 50 \text{ ml}}{1000 \text{ ppm}}$$

$$V_1 = 5 \text{ ml}$$

Lampiran 3 Perhitungan pembuatan larutan standar

A. Larutan standar 2 ppm

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

$$100 \text{ ppm} \times V_1 = 2 \text{ ppm} \times 10 \text{ ml}$$

$$V_1 = \frac{2 \text{ ppm} \times 10 \text{ ml}}{100 \text{ ppm}}$$

$$V_1 = 0,2 \text{ mL}$$

B. Larutan standar 4 ppm

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

$$100 \text{ ppm} \times V_1 = 4 \text{ ppm} \times 10 \text{ ml}$$

$$V_1 = \frac{4 \text{ ppm} \times 10 \text{ ml}}{100 \text{ ml}}$$

$$V_1 = 0,4 \text{ mL}$$

C. Larutan standar 6 ppm

$$M1 \times V1 = M2 \times V2$$

$$100 \text{ ppm} \times V1 = 6 \text{ ppm} \times 10 \text{ ml}$$

$$V1 = \frac{6 \text{ ppm} \times 10 \text{ ml}}{100 \text{ ppm}}$$

$$V1 = 0,6 \text{ mL}$$

D. Larutan standar 8 ppm

$$M1 \times V1 = M2 \times V2$$

$$100 \text{ ppm} \times V1 = 8 \text{ ppm} \times 10 \text{ ml}$$

$$V1 = \frac{8 \text{ ppm} \times 10 \text{ ml}}{100 \text{ ppm}}$$

$$V1 = 0,8 \text{ mL}$$

E. Larutan standar 10 ppm

$$M1 \times V1 = M2 \times V2$$

$$100 \text{ ppm} \times V1 = 10 \text{ ppm} \times 10 \text{ ml}$$

$$V1 = \frac{10 \text{ ppm} \times 10 \text{ ml}}{100 \text{ ppm}}$$

$$V1 = 1 \text{ mL}$$

Lampiran 4 Perhitungan pembuatan larutan FeCl₃ 0,5% dalam 100 ml

$$\%b/v = \frac{\text{massa zat (g)}}{\text{volume (ml)}} \times 100\%$$

$$\text{massa (g)} = \frac{\% \times \text{volume (ml)}}{100}$$

$$\text{massa (g)} = \frac{0,5 \% \times 100 \text{ ml}}{100 \%}$$

$$= 0,5 \text{ g}$$

Lampiran 5 Perhitungan pembuatan larutan HCl (1:3) dalam 100 ml

$$V \text{ HCl} = \frac{1}{4} \times 100 \text{ ml} = 25 \text{ ml}$$

$$V \text{ Aquadest} = \frac{3}{4} \times 100 \text{ ml} = 75 \text{ ml}$$

Lampiran 6 Perhitungan pembuatan larutan HCl 0,1% dalam 100 ml

$$M1 \times V1 = M2 \times V2$$

$$37 \% \times V1 = 0,1\% \times 100 \text{ ml}$$

$$V1 = \frac{0,1\% \times 100 \text{ ml}}{37\%}$$

$$V1 = 0,27 \text{ mL}$$

Lampiran 7 Perhitungan pembuatan larutan etanol 70% dalam 250 ml

$$M1 \times V1 = M2 \times V2$$

$$96 \% \times V1 = 70\% \times 250 \text{ ml}$$

$$V1 = \frac{70\% \times 250 \text{ ml}}{96\%}$$

$$V1 = 182,29 \text{ mL}$$

Lampiran 8 Prosedur pembuatan kontrol positif dan kontrol negatif

Larutan kontrol positif berupa larutan asam benzoat 1% yang ditambahkan pada salah satu larutan sampel, sedangkan kontrol negatif berupa aquadest (Nurhasnawati et al., 2023). Kemudian ditambahkan beberapa tetes larutan FeCl₃ 0,5% pada kontrol positif dan kontrol negatif dengan tujuan untuk perbandingan perubahan warna larutan pada uji kualitatif.

Lampiran 9 Prosedur pembuatan NaCl jenuh

Sebanyak 30 g NaCl p.a ditimbang dan dilarutkan dengan 100 ml aquadest didalam erlenmeyer kemudian diaduk hingga homogen.

Lampiran 10 Prosedur pembuatan FeCl₃ 0,5%

Sebanyak 0,5 g FeCl₃ ditimbang dan dilarutkan dengan 100 ml aquadest dalam erlenmeyer dan diaduk sampai homogen.

Lampiran 11 Prosedur pembuatan HCl (1:3)

Dipipet sebanyak 25 ml HCl 37% dimasukkan dalam labu ukur 100 ml, kemudian ditambahkan 75 ml aquadest dan dihomogenkan.

Lampiran 12 Prosedur pembuatan larutan HCl 0,1 %

Dipipet sebanyak 0,27 ml HCl 37% dimasukkan dalam labu ukur 100 ml, kemudian ditanda bataskan dengan aquadest dan dihomogenkan.

Lampiran 13 Prosedur pembuatan larutan etanol 70% dalam 250 ml

Dipipet etanol p.a sebanyak 182,29 ml dimasukkan pada labu ukur 250 ml. kemudian ditanda bataskan dengan aquadest dan dihomogenkan.

Lampiran 14 Perhitungan Absorbansi sampel

Sampel 1 Replikasi 1

$$y = 0,0864x + 0,0265$$

$$0,9159 = 0,0864x + 0,0265$$

$$0,9159 - 0,0265 = 0,0864x$$

$$0,8894 = 0,0864x$$

$$\frac{0,8894}{0,0864} = x$$

$$10,2939 = x$$

Sampel 1 Replikasi 2

$$y = 0,0864x + 0,0265$$

$$0,9162 = 0,0864x + 0,0265$$

$$0,9162 - 0,0265 = 0,0864x$$

$$0,8897 = 0,0864x$$

$$\frac{0,8897}{0,0864} = x$$

$$10,2974 = x$$

Sampel 1 Replikasi 3

$$y = 0,0864x + 0,0265$$

$$0,9128 = 0,0864x + 0,0265$$

$$0,9128 - 0,0265 = 0,0864x$$

$$0,8863 = 0,0864x$$

$$\frac{0,8863}{0,0864} = x$$

$$10,2581 = x$$

Sampel 2 Replikasi 1

$$y = 0,0864x + 0,0265$$

$$0,8046 = 0,0864x + 0,0265$$

$$0,8046 - 0,0265 = 0,0864x$$

$$0,7781 = 0,0864x$$

$$\frac{0,7781}{0,0864} = x$$

$$0,0864$$

$$9,0057 = x$$

Sampel 2 Replikasi 2

$$y = 0,0864x + 0,0265$$

$$0,8207 = 0,0864x + 0,0265$$

$$0,8207 - 0,0265 = 0,0864x$$

$$0,7942 = 0,0864x$$

$$\frac{0,7942}{0,0864} = x$$

$$0,0864$$

$$9,1921 = x$$

Sampel 2 Replikasi 3

$$y = 0,0864x + 0,0265$$

$$0,8215 = 0,0864x + 0,0265$$

$$0,8215 - 0,0265 = 0,0864x$$

$$0,7950 = 0,0864x$$

$$\frac{0,7950}{0,0864} = x$$

$$0,0864$$

$$9,2013 = x$$

Sampel 5 Replikasi 1

$$y = 0,0864x + 0,0265$$

$$0,6764 = 0,0864x + 0,0265$$

$$0,6764 - 0,0265 = 0,0864x$$

$$0,6499 = 0,0864x$$

$$\frac{0,6499}{0,0864} = x$$

$$7,5219 = x$$

Sampel 5 Replikasi 2

$$y = 0,0864x + 0,0265$$

$$0,6632 = 0,0864x + 0,0265$$

$$0,6632 - 0,0265 = 0,0864x$$

$$0,6367 = 0,0864x$$

$$\frac{0,6367}{0,0864} = x$$

$$7,3692 = x$$

Sampel 5 Replikasi 3

$$y = 0,0864x + 0,0265$$

$$0,6472 = 0,0864x + 0,0265$$

$$0,6472 - 0,0265 = 0,0864x$$

$$0,6207 = 0,0864x$$

$$\frac{0,6207}{0,0864} = x$$

$$7,1840 = x$$

Sampel 6 Replikasi 1

$$y = 0,0864x + 0,0265$$

$$0,7010 = 0,0864x + 0,0265$$

$$0,7010 - 0,0265 = 0,0864x$$

$$0,6745 = 0,0864x$$

$$\frac{0,6745}{0,0864} = x$$

$$7,8067 = x$$

Sampel 6 Replikasi 2

$$y = 0,0864x + 0,0265$$

$$0,7157 = 0,0864x + 0,0265$$

$$0,7157 - 0,0265 = 0,0864x$$

$$0,6892 = 0,0864x$$

$$\frac{0,6892}{0,0864} = x$$

$$0,0864$$

$$7,9768 = x$$

Sampel 6 Replikasi 3

$$y = 0,0864x + 0,0265$$

$$0,6991 = 0,0864x + 0,0265$$

$$0,6991 - 0,0265 = 0,0864x$$

$$0,6726 = 0,0864x$$

$$\frac{0,6726}{0,0864} = x$$

$$0,0864$$

$$7,7847 = x$$

Lampiran 15 Perhitungan Kadar Asam Benzoat dalam Sampel**Sampel 1 (Replikasi 1)**

Diketahui :

C : 10,2939 mg/L

V : 0,05 L

Fp : 10/5 = 2

W : 0,001 kg

$$\text{Kadar Asam Benzoat} = \frac{C \times V \times Fp}{W}$$

$$= \frac{10,2939 \text{ mg/L} \times 0,05 \text{ L} \times 2}{0,001 \text{ kg}}$$

$$= 1029,39 \text{ mg/kg}$$

Sampel 1 (Replikasi 2)

Diketahui :

$$C : 10,2974 \text{ mg/L}$$

$$V : 0,05 \text{ L}$$

$$Fp : 10/5 = 2$$

$$W : 0,001 \text{ kg}$$

$$\begin{aligned} \text{Kadar Asam Benzoat} &= \frac{C \times V \times Fp}{W} \\ &= \frac{10,2974 \text{ mg/L} \times 0,05 \text{ L} \times 2}{0,001 \text{ kg}} \\ &= 1029,74 \text{ mg/kg} \end{aligned}$$

Sampel 1 (Replikasi 3)

Diketahui :

$$C : 10,2581 \text{ mg/L}$$

$$V : 0,05 \text{ L}$$

$$Fp : 10/5 = 2$$

$$W : 0,001 \text{ kg}$$

$$\begin{aligned} \text{Kadar Asam Benzoat} &= \frac{C \times V \times Fp}{W} \\ &= \frac{10,2581 \text{ mg/L} \times 0,05 \text{ L} \times 2}{0,001 \text{ kg}} \\ &= 1025,81 \text{ mg/kg} \end{aligned}$$

Sampel 2 (Replikasi 1)

Diketahui :

$$C : 9,0057 \text{ mg/L}$$

$$V : 0,05 \text{ L}$$

$$Fp : 10/5 = 2$$

$$W : 0,001 \text{ kg}$$

$$\text{Kadar Asam Benzoat} = \frac{C \times V \times Fp}{W}$$

$$= \frac{9,0057 \text{ mg/L} \times 0,05 \text{ L} \times 2}{0,001 \text{ kg}}$$

$$= 900,57 \text{ mg/kg}$$

Sampel 2 (Replikasi 2)

Diketahui :

C : 9,1921 mg/L

V : 0,05 L

Fp : 10/5 = 2

W : 0,001 kg

$$\text{Kadar Asam Benzoat} = \frac{C \times V \times Fp}{W}$$

$$= \frac{9,1921 \text{ mg/L} \times 0,05 \text{ L} \times 2}{0,001 \text{ kg}}$$

$$= 919,21 \text{ mg/kg}$$

Sampel 2 (Replikasi 3)

Diketahui :

C : 9,2013 mg/L

V : 0,05 L

Fp : 10/5 = 2

W : 0,001 kg

$$\text{Kadar Asam Benzoat} = \frac{C \times V \times Fp}{W}$$

$$= \frac{9,2013 \text{ mg/L} \times 0,05 \text{ L} \times 2}{0,001 \text{ kg}}$$

$$= 920,13 \text{ mg/kg}$$

Sampel 5 (Replikasi 1)

Diketahui :

C : 7,5219 mg/L

V : 0,05 L

$$Fp : 10/5 = 2$$

$$W : 0,001 \text{ kg}$$

$$\begin{aligned} \text{Kadar Asam Benzoat} &= \frac{C \times V \times Fp}{W} \\ &= \frac{7,5219 \text{ mg/L} \times 0,05 \text{ L} \times 2}{0,001 \text{ kg}} \\ &= 752,19 \text{ mg/kg} \end{aligned}$$

Sampel 5 (Replikasi 2)

Diketahui :

$$C : 7,3692 \text{ mg/L}$$

$$V : 0,05 \text{ L}$$

$$Fp : 10/5 = 2$$

$$W : 0,001 \text{ kg}$$

$$\begin{aligned} \text{Kadar Asam Benzoat} &= \frac{C \times V \times Fp}{W} \\ &= \frac{7,3692 \text{ mg/L} \times 0,05 \text{ L} \times 2}{0,001 \text{ kg}} \\ &= 736,92 \text{ mg/kg} \end{aligned}$$

Sampel 5 (Replikasi 3)

Diketahui :

$$C : 7,1840 \text{ mg/L}$$

$$V : 0,05 \text{ L}$$

$$Fp : 10/5 = 2$$

$$W : 0,001 \text{ kg}$$

$$\begin{aligned} \text{Kadar Asam Benzoat} &= \frac{C \times V \times Fp}{W} \\ &= \frac{7,1840 \text{ mg/L} \times 0,05 \text{ L} \times 2}{0,001 \text{ kg}} \\ &= 718,40 \text{ mg/kg} \end{aligned}$$

Sampel 6 (Replikasi 1)

Diketahui :

$$C : 7,8067 \text{ mg/L}$$

$$V : 0,05 \text{ L}$$

$$Fp : 10/5 = 2$$

$$W : 0,001 \text{ kg}$$

$$\begin{aligned} \text{Kadar Asam Benzoat} &= \frac{C \times V \times Fp}{W} \\ &= \frac{7,8067 \text{ mg/L} \times 0,05 \text{ L} \times 2}{0,001 \text{ kg}} \\ &= 780,67 \text{ mg/kg} \end{aligned}$$

Sampel 6 (Replikasi 2)

Diketahui :

$$C : 7,9768 \text{ mg/L}$$

$$V : 0,05 \text{ L}$$

$$Fp : 10/5 = 2$$

$$W : 0,001 \text{ kg}$$

$$\begin{aligned} \text{Kadar Asam Benzoat} &= \frac{C \times V \times Fp}{W} \\ &= \frac{7,9768 \text{ mg/L} \times 0,05 \text{ L} \times 2}{0,001 \text{ kg}} \\ &= 797,68 \text{ mg/kg} \end{aligned}$$

Sampel 6 (Replikasi 3)

Diketahui :

$$C : 7,7847 \text{ mg/L}$$

$$V : 0,05 \text{ L}$$

$$Fp : 10/5 = 2$$

$$W : 0,001 \text{ kg}$$

$$\text{Kadar Asam Benzoat} = \frac{C \times V \times Fp}{W}$$

$$= \frac{7,7847 \text{ mg/L} \times 0,05 \text{ L} \times 2}{0,001 \text{ kg}}$$

$$= 778,47 \text{ mg/kg}$$

Lampiran 16 Perhitungan Kadar Natrium Benzoat pada Sampel

Sampel 1 (Replikasi 1)

Diketahui :

Kadar asam benzoat pada sampel : 1029,39 mg/kg

BM Natrium Benzoat : 144,11

BM Asam Benzoat : 122,12

Kadar Natrium Benzoat = Kadar Asam Benzoat x $\frac{\text{BM. na. benzoat}}{\text{BM. as benzoat}}$

$$\text{Kadar Natrium Benzoat} = 1029,39 \text{ mg/kg} \times \frac{144,11}{122,12}$$

Kadar Natrium Benzoat = 1214,75 mg/kg

Sampel 1 (Replikasi 2)

Diketahui :

Kadar asam benzoat pada sampel : 1029,74 mg/kg

BM Natrium Benzoat : 144,11

BM Asam Benzoat : 122,12

Kadar Natrium Benzoat = Kadar Asam Benzoat x $\frac{\text{BM. na. benzoat}}{\text{BM. as benzoat}}$

$$\text{Kadar Natrium Benzoat} = 1029,74 \text{ mg/kg} \times \frac{144,11}{122,12}$$

Kadar Natrium Benzoat = 1215,16 mg/kg

Sampel 1 (Replikasi 3)

Diketahui :

Kadar asam benzoat pada sampel : 1025,81 mg/kg

BM Natrium Benzoat : 144,11

BM Asam Benzoat : 122,12

$$\text{Kadar Natrium Benzoat} = \text{Kadar Asam Benzoat} \times \frac{\text{BM. na. benzoat}}{\text{BM. as benzoat}}$$

$$\text{Kadar Natrium Benzoat} = 1025,81 \text{ mg/kg} \times \frac{144,11}{122,12}$$

$$\text{Kadar Natrium Benzoat} = 1210,52 \text{ mg/kg}$$

Rata-rata Kadar Natrium Benzoat (Sampel 1)

$$\begin{aligned} \text{Rata-rata} &= \frac{\text{Rep 1} + \text{Rep 2} + \text{Rep 3}}{3} \\ &= \frac{1214,75 \text{ mg/kg} + 1215,16 \text{ mg/kg} + 1210,52 \text{ mg/kg}}{3} \\ &= 1213,47 \text{ mg/kg} \end{aligned}$$

Sampel 2 (Replikasi 1)

Diketahui :

Kadar asam benzoat pada sampel : 900,57 mg/kg

BM Natrium Benzoat : 144,11

BM Asam Benzoat : 122,12

$$\text{Kadar Natrium Benzoat} = \text{Kadar Asam Benzoat} \times \frac{\text{BM. na. benzoat}}{\text{BM. as benzoat}}$$

$$\text{Kadar Natrium Benzoat} = 900,57 \text{ mg/kg} \times \frac{144,11}{122,12}$$

$$\text{Kadar Natrium Benzoat} = 1062,73 \text{ mg/kg}$$

Sampel 2 (Replikasi 2)

Diketahui :

Kadar asam benzoat pada sampel : 919,21 mg/kg

BM Natrium Benzoat : 144,11

BM Asam Benzoat : 122,12

$$\text{Kadar Natrium Benzoat} = \text{Kadar Asam Benzoat} \times \frac{\text{BM. na. benzoat}}{\text{BM. as benzoat}}$$

$$\text{Kadar Natrium Benzoat} = 919,21 \text{ mg/kg} \times \frac{144,11}{122,12}$$

$$\text{Kadar Natrium Benzoat} = 1084,73 \text{ mg/kg}$$

Sampel 2 (Replikasi 3)

Diketahui :

$$\text{Kadar asam benzoat pada sampel} : 920,13 \text{ mg/kg}$$

$$\text{BM Natrium Benzoat} : 144,11$$

$$\text{BM Asam Benzoat} : 122,12$$

$$\text{Kadar Natrium Benzoat} = \text{Kadar Asam Benzoat} \times \frac{\text{BM. na. benzoat}}{\text{BM. as benzoat}}$$

$$\text{Kadar Natrium Benzoat} = 920,13 \text{ mg/kg} \times \frac{144,11}{122,12}$$

$$\text{Kadar Natrium Benzoat} = 1085,81 \text{ mg/kg}$$

Rata-rata Kadar Natrium Benzoat (Sampel 2)

$$\begin{aligned} \text{Rata-rata} &= \frac{\text{Rep 1} + \text{Rep 2} + \text{Rep 3}}{3} \\ &= \frac{1062,73 \text{ mg/kg} + 1084,73 \text{ mg/kg} + 1085,81 \text{ mg/kg}}{3} \\ &= 1077,75 \text{ mg/kg} \end{aligned}$$

Sampel 5 (Replikasi 1)

Diketahui :

$$\text{Kadar asam benzoat pada sampel} : 752,19 \text{ mg/kg}$$

$$\text{BM Natrium Benzoat} : 144,11$$

$$\text{BM Asam Benzoat} : 122,12$$

$$\text{Kadar Natrium Benzoat} = \text{Kadar Asam Benzoat} \times \frac{\text{BM. na. benzoat}}{\text{BM. as benzoat}}$$

$$\text{Kadar Natrium Benzoat} = 752,19 \text{ mg/kg} \times \frac{144,11}{122,12}$$

$$\text{Kadar Natrium Benzoat} = 887,63 \text{ mg/kg}$$

Sampel 5 (Replikasi 2)

Diketahui :

Kadar asam benzoat pada sampel : 736,92 mg/kg

BM Natrium Benzoat : 144,11

BM Asam Benzoat : 122,12

$$\text{Kadar Natrium Benzoat} = \text{Kadar Asam Benzoat} \times \frac{\text{BM. na. benzoat}}{\text{BM. as benzoat}}$$

$$\text{Kadar Natrium Benzoat} = 736,92 \text{ mg/kg} \times \frac{144,11}{122,12}$$

$$\text{Kadar Natrium Benzoat} = 869,61 \text{ mg/kg}$$

Sampel 5 (Replikasi 3)

Diketahui :

Kadar asam benzoat pada sampel : 718,40 mg/kg

BM Natrium Benzoat : 144,11

BM Asam Benzoat : 122,12

$$\text{Kadar Natrium Benzoat} = \text{Kadar Asam Benzoat} \times \frac{\text{BM. na. benzoat}}{\text{BM. as benzoat}}$$

$$\text{Kadar Natrium Benzoat} = 718,40 \text{ mg/kg} \times \frac{144,11}{122,12}$$

$$\text{Kadar Natrium Benzoat} = 847,76 \text{ mg/kg}$$

Rata-rata Kadar Natrium Benzoat (Sampel 5)

$$\begin{aligned} \text{Rata-rata} &= \frac{\text{Rep 1} + \text{Rep 2} + \text{Rep 3}}{3} \\ &= \frac{887,63 \text{ mg/kg} + 869,61 \text{ mg/kg} + 847,76 \text{ mg/kg}}{3} \\ &= 868,33 \text{ mg/kg} \end{aligned}$$

Sampel 6 (Replikasi 1)

Diketahui :

Kadar asam benzoat pada sampel : 780,67 mg/kg

BM Natrium Benzoat : 144,11

BM Asam Benzoat : 122,12

Kadar Natrium Benzoat = Kadar Asam Benzoat x $\frac{\text{BM. na. benzoat}}{\text{BM. as benzoat}}$

Kadar Natrium Benzoat = $780,67 \text{ mg/kg} \times \frac{144,11}{122,12}$

Kadar Natrium Benzoat = 921,24 mg/kg

Sampel 6 (Replikasi 2)

Diketahui :

Kadar asam benzoat pada sampel : 797,68 mg/kg

BM Natrium Benzoat : 144,11

BM Asam Benzoat : 122,12

Kadar Natrium Benzoat = Kadar Asam Benzoat x $\frac{\text{BM. na. benzoat}}{\text{BM. as benzoat}}$

Kadar Natrium Benzoat = $797,68 \text{ mg/kg} \times \frac{144,11}{122,12}$

Kadar Natrium Benzoat = 941,31 mg/kg

Sampel 6 (Replikasi 3)

Diketahui :

Kadar asam benzoat pada sampel : 778,47 mg/kg

BM Natrium Benzoat : 144,11

BM Asam Benzoat : 122,12

Kadar Natrium Benzoat = Kadar Asam Benzoat x $\frac{\text{BM. na. benzoat}}{\text{BM. as benzoat}}$

Kadar Natrium Benzoat = $778,47 \text{ mg/kg} \times \frac{144,11}{122,12}$

Kadar Natrium Benzoat = 918,64 mg/kg







Rata-rata Kadar Natrium Benzoat (Sampel 6)




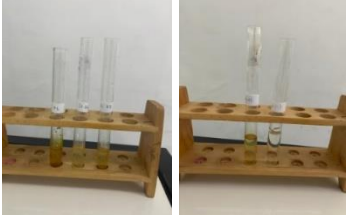
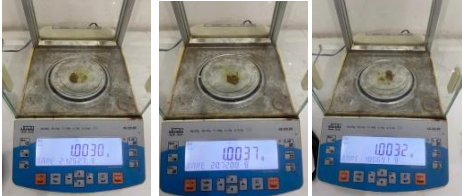

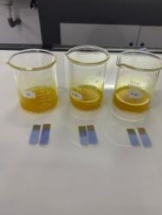
$$\text{Rata-rata} = \frac{\text{Rep 1} + \text{Rep 2} + \text{Rep 3}}{3}$$





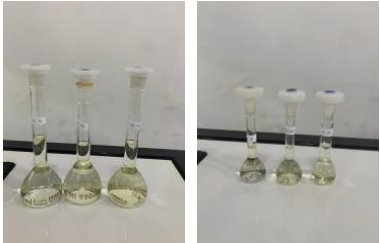

$$= \frac{921,24 \text{ mg/kg} + 941,31 \text{ mg/kg} + 918,64 \text{ mg/kg}}{3}$$

$$= 927,06 \text{ mg/kg}$$

Lampiran 17 Dokumentasi

No.	Gambar	Keterangan
1,		Pengambilan sampel di Pasar Bululawang Kabupaten Malang
2.		Penimbangan padatan Asam Benzoat
3.		Pembuatan larutan induk 1000 ppm dan larutan standar kerja 100 ppm
4.		Pembuatan larutan seri standar 2,4,6,8, dan 10 ppm
4.		Diukur absorbansinya menggunakan Spektrofotometer Uv-Vis
6.		Penimbangan sampel untuk uji kualitatif dilakukan sebanyak 3x replikasi setiap sampel

7.		Diasamkan dengan penambahan HCl
8.		Ekstraksi menggunakan dietil eter
9.		Pelarut yang diperoleh diuapkan diatas penangas air
10.		Residu yang diperoleh dilarutkan dengan beberapa ml air panas dan ditambahkan beberapa tetes FeCl ₃ , lalu hasilnya dibandingkan dengan kontrol
11.		Penimbangan sampel sebanyak 3x replikasi untuk uji kuantitatif
12.		Penambahan NaCl jenuh sebanyak 20 ml
13.		Penambahan HCl (1:3) sampai bersifat asam (kertas lakmus biru menjadi merah)

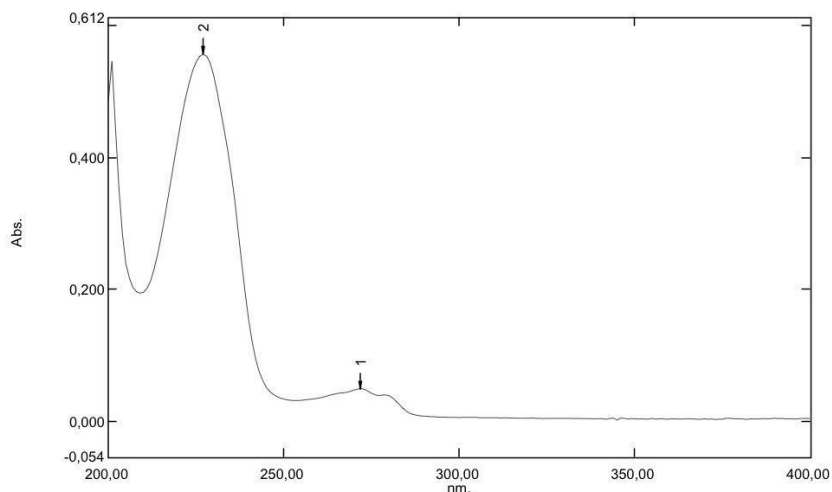
14.		Ekstraksi menggunakan dietil eter sebanyak 3x
15.		Pencucian filtrat yang diperoleh menggunakan HCl 0,1% sebanyak 3x
16.		Hasil filtrat yang diperoleh ditanda bataskan menggunakan etanol 70%
17.		Larutan diuapkan diatas penangas air dalam lemari asam
18.		Residu yang diperoleh dilarutkan dengan etanol p.a. dimasukkan labu ukur 50 ml dan ditanda bataskan dengan etanol p.a. Lalu diambil 5 ml larutan ditandabataskan pada labu ukur 10 ml
19.		Pengukuran absorbansi sampel menggunakan Spektrofotometer Uv-Vis

Lampiran 18 Hasil Pengukuran Panjang Gelombang Maksimum Asam Benzoat

Spectrum Peak Pick Report

14/05/2026 11:35:58

Data Set: PG - RawData



[Measurement Properties]
 Wavelength Range (nm.): 200.00 to 400.00
 Scan Speed: Medium
 Sampling Interval: 1.0
 Auto Sampling Interval: Disabled
 Scan Mode: Single

No.	P/V	Wavelength	Abs.	Description
1	●	272.00	0.050	
2	●	227.00	0.557	

[Instrument Properties]
 Instrument Type: UV-1780 Series
 Measuring Mode: Absorbance
 Slit Width: 1.0 nm
 Light Source Change Wavelength: 340.8 nm
 S/R Exchange: Normal

[Attachment Properties]
 Attachment: 6-Cell
 Number of cells: 1

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

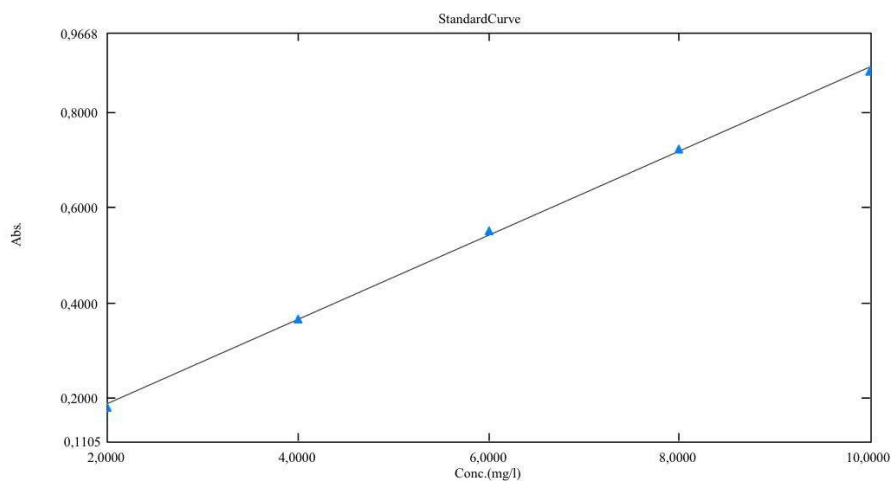
[Sample Preparation Properties]
 Weight:
 Volume:
 Dilution:
 Path Length:
 Additional Information:

Lampiran 19 Hasil Pengukuran Standar Asam Benzoat

StandardTableReport

16/04/202620:58:13

FileName:C:\LABENZOAT\STD1.pho



StandardTable

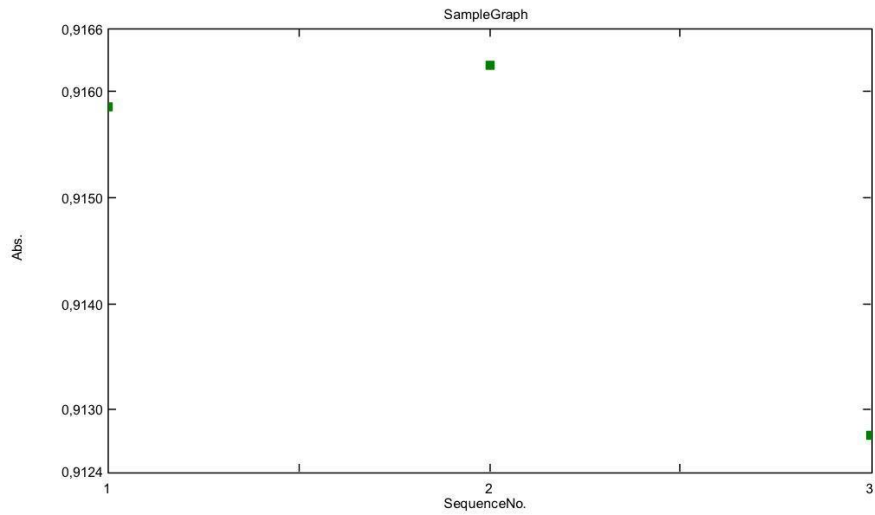
	SampleID	Type	Ex	Conc	WL227,0	Wgt.Factor	Comments
1	2	Standard		2.0000	0.1818	1.0000	
2	4	Standard		4.0000	0.3667	1.0000	
3	6	Standard		6.0000	0.5529	1.0000	
4	8	Standard		8.0000	0.7238	1.0000	
5	10	Standard		10.0000	0.8873	1.0000	
6							

Lampiran 20 Hasil Pengujian Sampel 1

SampleTableReport

14/05/202611:21:51

FileName: C:\LIABENZOAT\SAMPEL1NATRIUMBENZOAT.pho



SampleTable

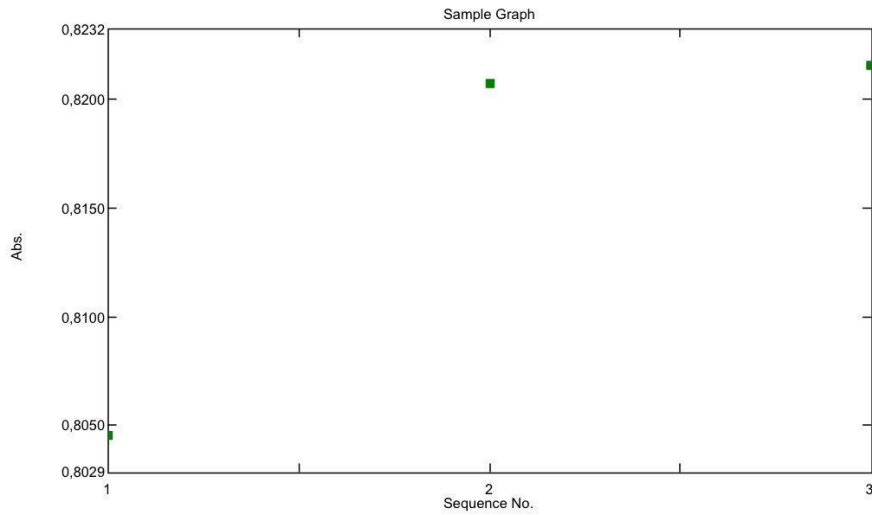
	SampleID	Type	Ex	Conc	WL227,0	Comments
1	S1_R1	Unknown		10.2236	0.9159	
2	S1_R2	Unknown		10.2279	0.9162	
3	S1_R3	Unknown		10.1885	0.9128	
4						

Lampiran 21 Hasil Pengujian Sampel 2

Sample Table Report

14/05/2026 11:25:11

File Name: C:\LIA BENZOAT\SAMPEL 2 NATRIUM BENZOAT.pho



Sample Table

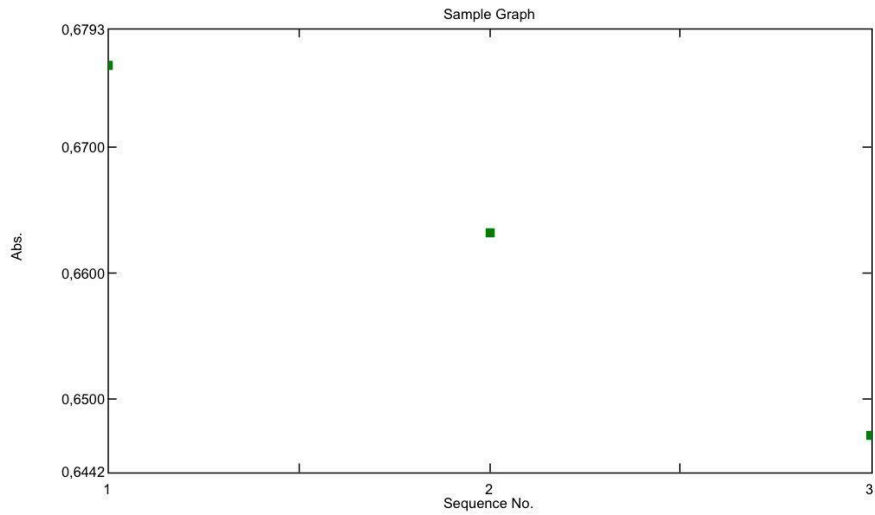
	Sample ID	Type	Ex	Conc	WL227,0	Comments
1	S2_R1	Unknown		8.9646	0.8046	
2	S2_R2	Unknown		9.1472	0.8207	
3	S2_R3	Unknown		9.1565	0.8215	
4						

Lampiran 22 Hasil Pengujian Sampel 5

Sample Table Report

14/05/2026 11:27:09

File Name: C:\LIA BENZOAT\SAMPEL 5 NATRIUM BENZOAT.pho



Sample Table

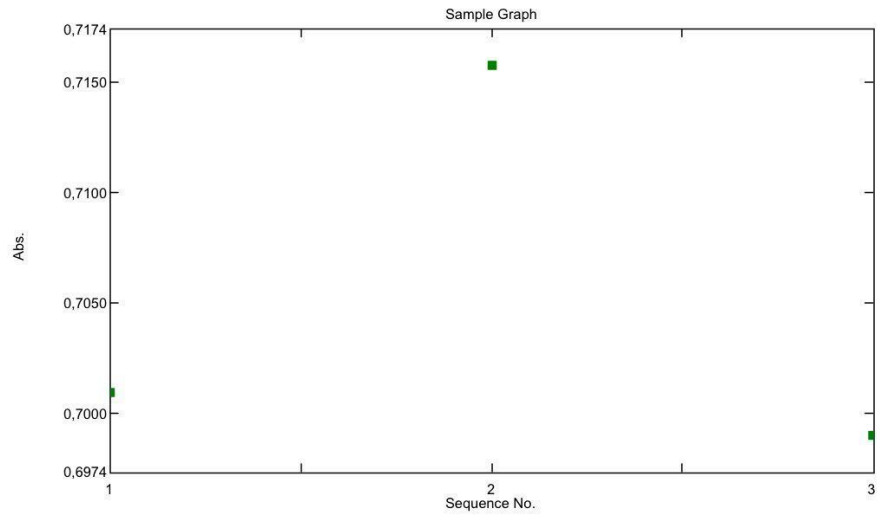
	Sample ID	Type	Ex	Conc	WL227,0	Comments
1	S5_R1	Unknown		7.5148	0.6764	
2	S5_R2	Unknown		7.3653	0.6632	
3	S5_R3	Unknown		7.1839	0.6472	
4						

Lampiran 23 Hasil Pengujian Sampel 6

Sample Table Report

14/05/2026 11:28:55

File Name: C:\LIA BENZOAT\SAMPEL 6 NATRIUM BENZOAT.pho



Sample Table

	Sample ID	Type	Ex	Conc	WL227,0	Comments
1	S6_R1	Unknown		7.7929	0.7010	
2	S6_R2	Unknown		7.9598	0.7157	
3	S6_R3	Unknown		7.7710	0.6991	
4						