

LAMPIRAN B PERHITUNGAN

1. Perhitungan Kadar Air Sampel

Perhitungan kadar air sampel dengan menggunakan rumus berikut:

$$\text{Kadar air (\%)} = \frac{(\text{cawan+sampel})_{\text{awal}} - (\text{cawan+sampel})_{\text{akhir}}}{(\text{cawan+sampel})_{\text{akhir}} - \text{cawan kosong}} \times 100\%$$

a. Sampel 1

$$\begin{aligned} \text{Kadar Air} &= \frac{(57.5326 - 57.3890)\text{gram}}{(57.3890 - 55.5326)\text{gram}} \times 100\% \\ &= \frac{0.1436 \text{ gram}}{1.8564 \text{ gram}} \times 100\% \\ &= 7.7354\% \end{aligned}$$

b. Sampel 2

$$\begin{aligned} \text{Kadar Air} &= \frac{(30.4214 - 30.2855)\text{gram}}{(30.2855 - 28.4216)\text{gram}} \times 100\% \\ &= \frac{0.1359 \text{ gram}}{1.8639 \text{ gram}} \times 100\% \\ &= 7.2912\% \end{aligned}$$

Dengan cara perhitungan yang sama, kadar air sampel selanjutnya dapat dilihat pada table 6.

2. Perhitungan Kadar Abu Sampel

Perhitungan kadar abu sampel dengan menggunakan rumus berikut:

$$\text{Kadar Abu (\%)} = \frac{\text{Berat Abu}}{\text{Berat Sampel}} \times 100\%$$

a. Sampel 1

$$\begin{aligned} \text{Kadar Abu} &= \frac{(33.4184 - 33.3976)\text{gram}}{3 \text{ gram}} \times 100\% \\ &= \frac{0.0208 \text{ gram}}{3 \text{ gram}} \times 100\% \\ &= 0.6933\% \end{aligned}$$

b. Sampel 2

$$\begin{aligned}\text{Kadar Abu} &= \frac{(22.9275 - 22.8986)\text{gram}}{3 \text{ gram}} \times 100\% \\ &= \frac{0.0289 \text{ gram}}{3 \text{ gram}} \times 100\% \\ &= 0.9633\%\end{aligned}$$

Dengan cara perhitungan yang sama, kadar abu sampel selanjutnya dapat dilihat pada table 6.

3. Perhitungan Kelarutan Sampel

Perhitungan kadar abu sampel dengan menggunakan rumus berikut:

$$\text{Kelarutan (\%)} = \left(1 - \frac{(c-b)}{\frac{100 - \%KA}{100} \times a}\right) \times 100$$

a. Sampel 1

$$\begin{aligned}\text{Kelarutan} &= \left(1 - \frac{(0.7114 - 0.3060)\text{gram}}{\frac{100 - 7.7354}{100} \times 1 \text{ gram}} \times 100\%\right) \\ &= \left(1 - \frac{(0.4054)\text{gram}}{0.9227 \text{ gram}} \times 100\%\right) \\ &= 56.0612\%\end{aligned}$$

b. Sampel 2

$$\begin{aligned}\text{Kelarutan} &= \left(1 - \frac{(0.7489 - 0.3790)\text{gram}}{\frac{100 - 7.2912}{100} \times 1 \text{ gram}} \times 100\%\right) \\ &= \left(1 - \frac{(0.3699)\text{gram}}{0.9271 \text{ gram}} \times 100\%\right) \\ &= 60.1009\%\end{aligned}$$

Dengan cara perhitungan yang sama, kelarutan sampel selanjutnya dapat dilihat pada table 6.

4. Perhitungan Kadar Vitamin C

Standarisasi Larutan Iod:

$$\begin{aligned} \text{Mek Standar Primer} &= \text{Mek Titrasi} \\ \frac{\text{mg As}_2\text{O}_3}{\text{BE As}_2\text{O}_3} &= \text{VI}_2 \times \text{NI}_2 \\ \frac{1.25 \text{ gr} \times 1000 \text{ mg} \times \frac{25\text{mL}}{250\text{mL}}}{199.84 \frac{\text{mg}}{\text{mek}} / 4 \times 44.3 \text{ mL}} &= \text{NI}_2 \\ \text{NI}_2 &= 0.0565 \text{ mek/mL} \end{aligned}$$

Penentuan kadar vitamin C:

a. Sampel 1

Mek Asam Askorbat = Mek Titrasi

$$\frac{\text{mg Asam Askorbat}}{\text{BE Asam Askorbat}} = \text{VI}_2 \times \text{NI}_2$$

$$\begin{aligned} \text{mg Asam Askorbat} &= \text{VI}_2 \times \text{NI}_2 \times \text{BE Asam Askorbat} \\ &= 0.25 \text{ mL} \times 0.0565 \text{ mek/mL} \times 88.07 \text{ mg/mek} \\ &= 1.2435 \text{ mg} \end{aligned}$$

b. Sampel 2

Mek Asam Askorbat = Mek Titrasi

$$\frac{\text{mg Asam Askorbat}}{\text{BE Asam Askorbat}} = \text{VI}_2 \times \text{NI}_2$$

$$\begin{aligned} \text{mg Asam Askorbat} &= \text{VI}_2 \times \text{NI}_2 \times \text{BE Asam Askorbat} \\ &= 0.20 \text{ mL} \times 0.0565 \text{ mek/mL} \times 88.07 \text{ mg/mek} \\ &= 0.9948 \text{ mg} \end{aligned}$$

Dengan cara perhitungan yang sama, kadar vitamin C sampel selanjutnya dapat dilihat pada table 7.