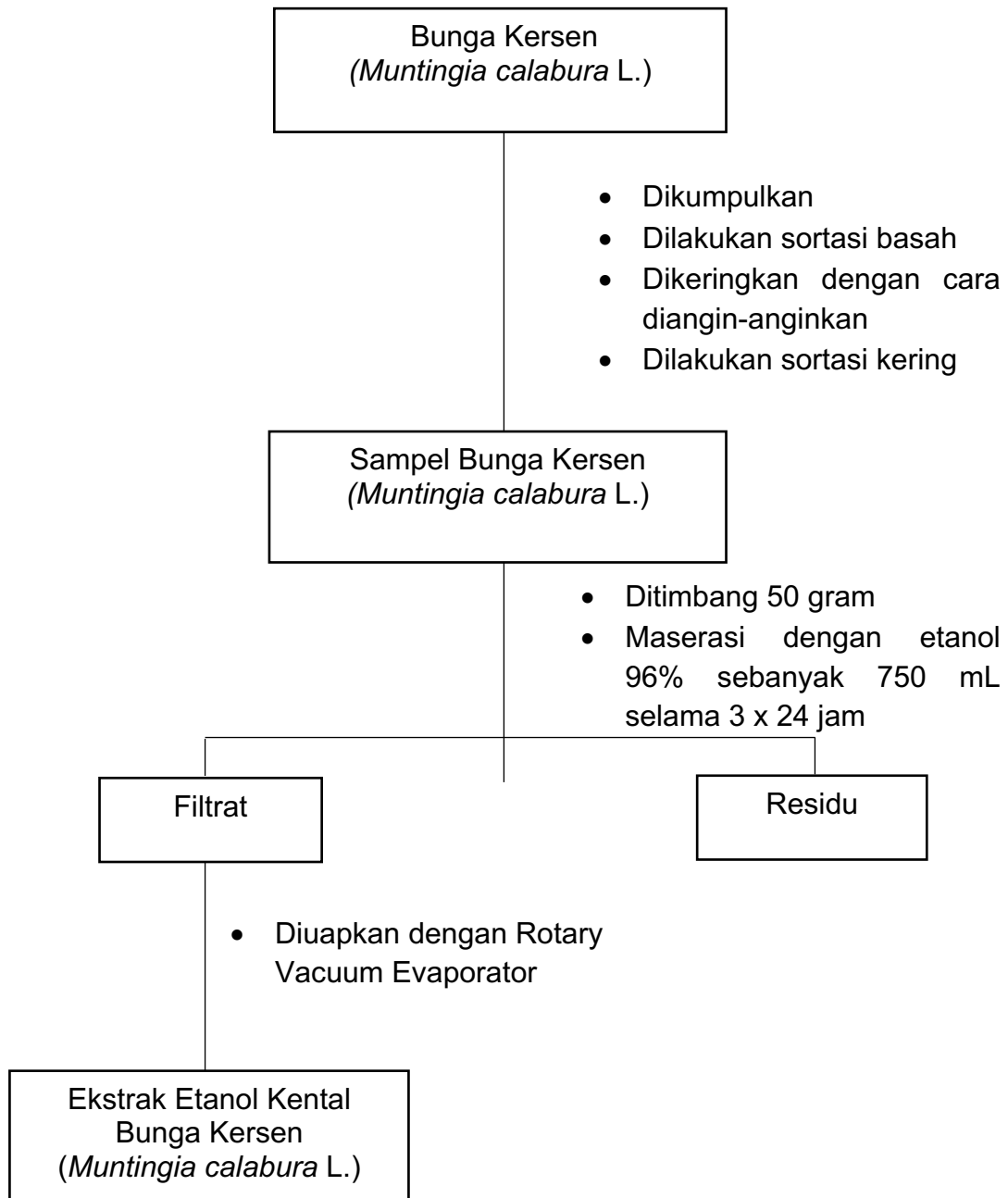
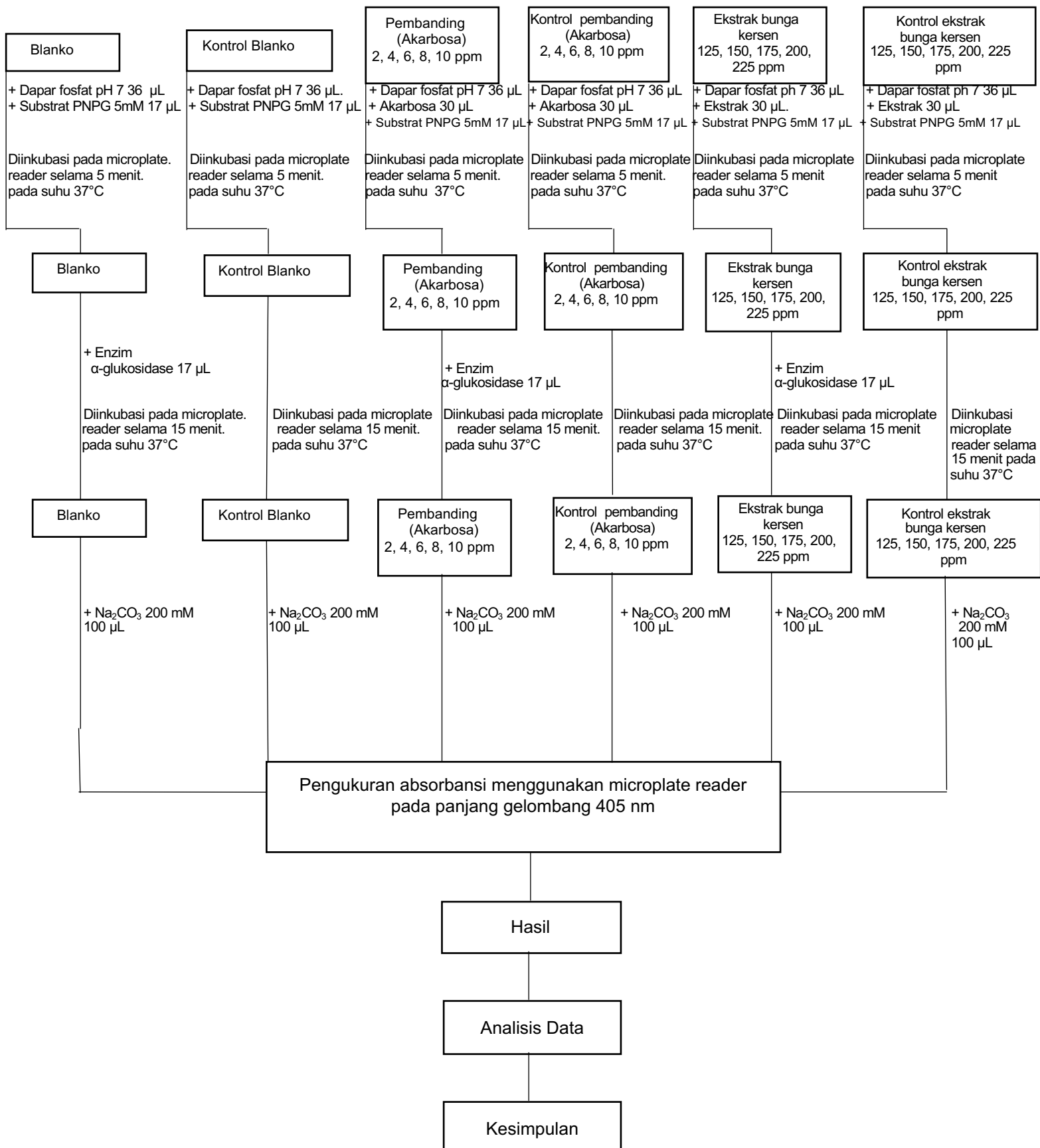


LAMPIRAN

Lampiran 1. Skema kerja pengolahan dan ekstraksi bunga kersen (*Muntingia calabura* L.)



Lampiran 2. Skema kerja uji penghambatan aktivitas enzim α -glukosidase



Lampiran 2. Perhitungan Persen Rendamen

Berat simplisia : 50 gram

Berat ekstrak etanol : 7,57 gram

$$\begin{aligned}(\%) \text{ Rendamen ekstrak} &= \frac{\text{Berat ekstrak etanol}}{\text{Berat simplisia}} \times 100\% \\ &= \frac{7,57}{50} \times 100\% \\ &= 15,14\%\end{aligned}$$

Lampiran 4. Perhitungan Penyiapan Enzim α -Glukosidase (0,25 U/mL)

Diketahui :

$$1 \text{ mg} = 28 \text{ U enzim } \alpha\text{-glukosidase}$$

Penyelesaian :

1 mg



$$1 \text{ mL} \longrightarrow 28 \text{ U enzim } \alpha\text{-glukosidase}$$

$$x \cdot 28 \text{ U} = 0,25 \text{ U} \cdot 10 \text{ mL}$$

$$X = \frac{0,25 \text{ U} \cdot 10 \text{ mL}}{28 \text{ U}}$$

$$X = 0,08929 \text{ mL}$$

$$X = 89,29 \text{ } \mu\text{L}$$

Lampiran 5. Perhitungan penyiapan substrat p-nitrofenil- α -D-glukopiranosida (PNPG) 5 mM

Diketahui :

$$M \text{ pNPG} = 5 \text{ mM} \longrightarrow 0,005 \text{ M}$$

$$Mr \text{ pNPG} = 301,25$$

$$\text{Volume} = 10 \text{ mL} \longrightarrow 0,01 \text{ L}$$

Penyelesaian :

$$M = \frac{n}{V}$$

$$M = \frac{\frac{g}{Mr}}{V}$$

$$M = \frac{g}{Mr \cdot V}$$

$$0,005M = \frac{g}{301,25 \times 0,01 \text{ L}}$$

$$g = 0,005 \text{ M} \times 301,25 \times 0,01 \text{ L}$$

$$= 0,015062 \text{ g}$$

$$= 15,062 \text{ mg}$$

Lampiran 6. Hasil perhitungan aktivitas inhibisi enzim alfa-glukosidase dari ekstrak bunga kersen (*Muntingia calabura* L.)

Tabel 5. Hasil perhitungan IC₅₀ ekstrak bunga kersen (*Muntingia calabura* L.)

Konsentrasi ($\mu\text{g/mL}$)	% Inhibisi	IC ₅₀ ($\mu\text{g/mL}$)
125	30,03	
150	43,31	
175	60,06	158,262
200	73	
225	101,12	

A. Perhitungan %Inhibisi Ekstrak Bunga Kersen (*Muntingia calabura* L.)

$$\% \text{ Inhibisi} = \frac{B-S}{B} \times 100 \%$$

1) Larutan Sampel 125 ppm (S : 0,881 – 0,075 = 0,806)

$$= \frac{1,152 - 0,806}{1,152} \times 100 \%$$

$$= 0,3003 \times 100 \%$$

$$= 30,03 \%$$

2) Larutan Sampel 150 ppm (S : 0,753 – 0,1 = 0,653)

$$= \frac{1,152 - 0,653}{1,152} \times 100 \%$$

$$= 0,4331 \times 100 \%$$

$$= 43,31 \%$$

3) Larutan Sampel 175 ppm (S : 0,61 – 0,15 = 0,46)

$$= \frac{1,152 - 0,46}{1,152} \times 100\%$$

$$= 0,6006 \times 100 \%$$

$$= 60,06 \%$$

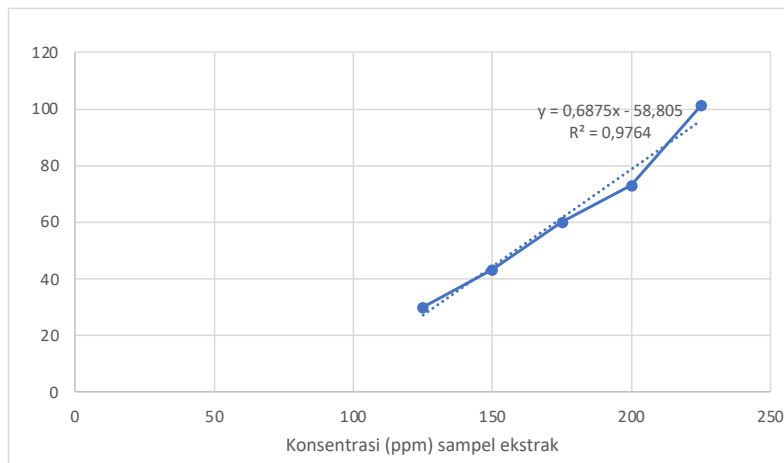
4) Larutan Sampel 200 ppm (S : 0,509 – 0,198 = 0,311)

$$\begin{aligned}
 &= \frac{1,152 - 0,311}{1,152} \times 100\% \\
 &= 0,7300 \times 100\% \\
 &= 73\%
 \end{aligned}$$

5) Larutan Sampel 225 ppm (S : 0,232 – 0,245 = - 0,013)

$$\begin{aligned}
 &= \frac{1,152 - (-0,013)}{1,152} \times 100\% \\
 &= 1,0112 \times 100\% \\
 &= 101,12\%
 \end{aligned}$$

B. Kurva Linear Konsentrasi vs Persen Inhibisi Sampel



Gambar 4. Kurva linear konsentrasi vs persen inhibisi

C. Perhitungan nilai IC₅₀

$$Y = a + bX$$

X = Konsentrasi (IC₅₀)

Y = Persen inhibisi

$$Y = -58,805 + 0,6875x \quad a = -58,805 \quad b = 0,6875$$

$$IC_{50} = \frac{50 - a}{b}$$

$$IC_{50} = \frac{50 - (-58,805)}{0,6875}$$

$$IC_{50} = 158,262$$

$$IC_{50} = 158,262 \mu\text{g/mL}$$

**Lampiran 7. Hasil perhitungan aktivitas inhibisi enzim alfa-glukosidase
dari akarbosa**

Tabel 6 Hasil Perhitungan IC₅₀ Akarbosa

Konsentrasi ($\mu g/mL$)	% Inhibisi	IC ₅₀ ($\mu g/mL$)
2	62,67	0,256
4	74,3	
6	87,67	
8	99,56	
10	108,42	

A. Perhitungan %Inhibisi Akarbosa

$$\% \text{ Inhibisi} = \frac{B-S}{B} \times 100 \%$$

I. Larutan Akarbosa konsentrasi 2 ppm (S : 0,493 – 0,063 = 0,43)

$$= \frac{1,152-0,43}{1,152} \times 100\%$$

$$= 0,6267 \times 100\%$$

$$= 62,67 \%$$

II. Larutan Akarbosa konsentrasi 4 ppm (S : 0,38 – 0,084 = 0,296)

$$= \frac{1,152-0,296}{1,152} \times 100\%$$

$$= 0,7430 \times 100\%$$

$$= 74,3 \%$$

III. Larutan Akarbosa konsentrasi 6 ppm (S : 0,25 – 0,108 = 0,142)

$$= \frac{1,152-0,142}{1,152} \times 100\%$$

$$= 0,8767 \times 100 \%$$

$$= 87,67 \%$$

IV. Larutan Akarbosa konsentrasi 8 ppm (S : $0,177 - 0,172 = 0,005$)

$$= \frac{1,152 - 0,005}{1,152} \times 100\%$$

$$= 0,9956 \times 100 \%$$

$$= 99,56 \%$$

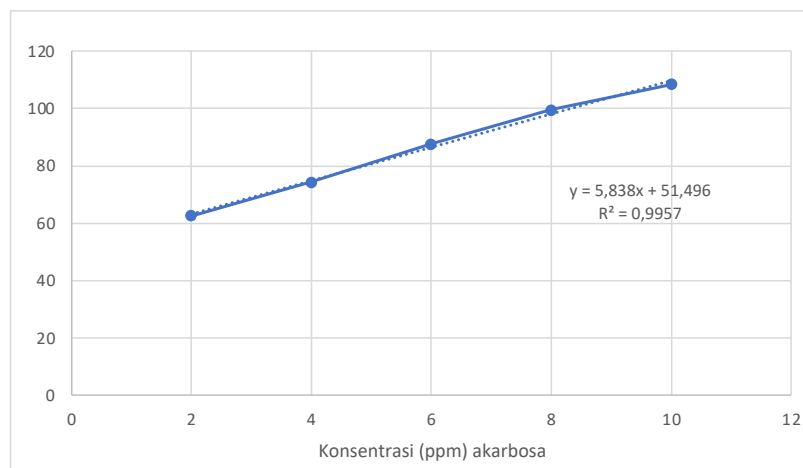
V. Larutan Akarbosa konsentrasi 10 ppm (S : $0,107 - 0,204 = - 0,097$)

$$= \frac{1,152 - (-0,097)}{1,152} \times 100\%$$

$$= 1,0842 \times 100\%$$

$$= 108,42 \%$$

B. Kurva Linear Konsentrasi vs Persen Inhibisi Akarbosa



Gambar 5. Kurva linear konsentrasi vs persen inhibisi

C. Perhitungan nilai IC₅₀

$$Y = a + bX$$

$$X = \text{Konsentrasi (IC}_{50}\text{)}$$

$$Y = \text{Persen inhibisi}$$

$$Y = 51,496 + 5,838x \quad a = 51,496 \quad b = 5,838$$

$$\text{IC}_{50} = \frac{50 - a}{b}$$

$$\text{IC}_{50} = \frac{50 - 51,496}{5,838}$$

$$\text{IC}_{50} = 0,256$$

$$\text{IC}_{50} = 0,256 \mu\text{g/mL}$$

Lampiran 8. Dokumentasi Penelitian



Gambar 4. Pohon kersen
(Sumber: Dokumentasi pribadi)



Gambar 5. Pengeringan bunga kersen
(Sumber: Dokumentasi pribadi)



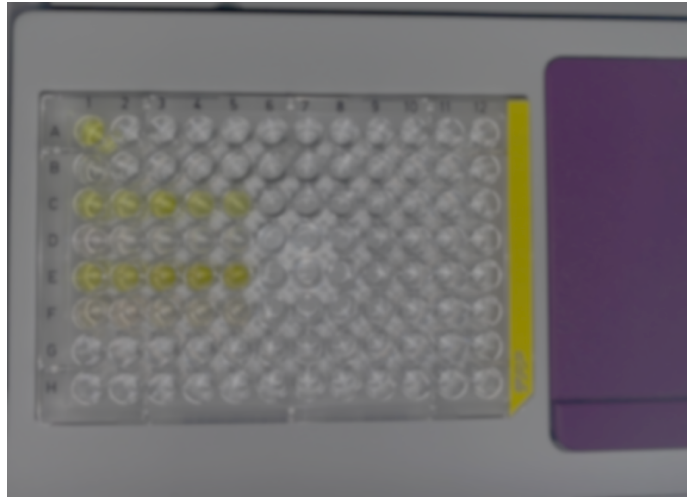
Gambar 6. Hasil bunga kersen setelah pengeringan
(Sumber: Dokumentasi pribadi)



Gambar 7. Proses ekstraksi dengan metode maserasi
(Sumber: Dokumentasi pribadi)



Gambar 8. Ekstrak etanol kental bunga kersen
(Sumber Dokumentasi pribadi)



Gambar 9. Well plate yang berisi larutan uji
(Sumber: Dokumentasi pribadi)



Gambar 10. Pengukuran larutan uji pada *Microplate reader*
(Sumber: Dokumentasi pribadi)