

Lampiran I. Perhitungan

A. Perhitungan % Rendemen

$$\begin{aligned}
 (\%) \text{ Rendemen} &= \frac{\text{Berat ekstrak}}{\text{Berat simplisia kering}} \times 100\% \\
 &= \frac{11,6 \text{ gram}}{100 \text{ gram}} \times 100\% \\
 &= 11,6\%
 \end{aligned}$$

B. Pengenceran sampel daun dengan

Larutan Induk : 5 mg ekstrak dilarutkan pada pada etanol 5 ml:

$$\begin{aligned}
 &= \frac{5 \text{ mg}}{5 \text{ ml}} \times 1000 \\
 &= 1000 \text{ ppm}
 \end{aligned}$$

$$M_1 \cdot V_1 = M_2 \cdot V_2 \text{ (100 ppm)}$$

$$1000 \cdot V_1 = 100 \cdot 5$$

$$V_1 = \frac{500}{1000} = 0,5 \text{ ml}$$

$$M_1 \cdot V_1 = M_2 \cdot V_2 \text{ (100 ppm)}$$

$$1000 \cdot V_1 = 90 \cdot 5$$

$$V_1 = \frac{450}{1000} = 0,45 \text{ ml}$$

$$M_1 \cdot V_1 = M_2 \cdot V_2 \text{ (100 ppm)}$$

$$1000 \cdot V_1 = 80 \cdot 5$$

$$V_1 = \frac{400}{1000} = 0,4 \text{ ml}$$

$$M_1 \cdot V_1 = M_2 \cdot V_2 \text{ (100 ppm)}$$

$$1000 \cdot V_1 = 70 \cdot 5$$

$$V_1 = \frac{350}{1000} = 0,35 \text{ ml}$$

$$M_1 \cdot V_1 = M_2 \cdot V_2 \text{ (100 ppm)}$$

$$1000 \cdot V_1 = 60 \cdot 5$$

$$V_1 = \frac{300}{1000} = 0,3 \text{ ml}$$

C. Pengenceran konsentrasi asam askorbat

$$M_1 \cdot V_1 = M_2 \cdot V_2 \text{ (100 ppm)}$$

$$1000 \cdot V_1 = 100 \cdot 5$$

$$V_1 = \frac{500}{1000} = 0,5 \text{ ml}$$

$$M_1 \cdot V_1 = M_2 \cdot V_2 \text{ (100 ppm)}$$

$$1000 \cdot V_1 = 90 \cdot 5$$

$$V_1 = \frac{450}{1000} = 0,45 \text{ ml}$$

$$M_1 \cdot V_1 = M_2 \cdot V_2 \text{ (100 ppm)}$$

$$1000 \cdot V_1 = 80 \cdot 5$$

$$V_1 = \frac{400}{1000} = 0,4 \text{ ml}$$

$$M_1 \cdot V_1 = M_2 \cdot V_2 \text{ (100 ppm)}$$

$$1000 \cdot V_1 = 70 \cdot 5$$

$$V_1 = \frac{350}{1000} = 0,35 \text{ ml}$$

$$M_1 \cdot V_1 = M_2 \cdot V_2 \text{ (100 ppm)}$$

$$1000 \cdot V_1 = 60 \cdot 5$$

$$V_1 = \frac{300}{1000} = 0,3 \text{ ml}$$

D. Perhitungan nilai FRAP %

$$\text{Rumus : Nilai FRAP (\%)} = \frac{\text{Abs sampel} - \text{Abs blanko}}{\text{Abs standar} - \text{Abs blanko}} \times 100\%$$

$$100 \text{ ppm} = \frac{0,659 - 0,287}{1,376 - 0,287} \times 100\%$$

$$= \frac{0,372}{1,089} \times 100\%$$

$$= 34,15\%$$

$$90 \text{ ppm} = \frac{0,664 - 0,287}{1,117 - 0,287} \times 100\%$$

$$= \frac{0,377}{0,83} \times 100\%$$

$$= 45,42\%$$

$$80 \text{ ppm} = \frac{0,551 - 0,287}{1,082 - 0,287} \times 100\%$$

$$\begin{aligned}
 &= \frac{0,265}{0,795} \times 100\% \\
 &= 33,20\% \\
 70 \text{ ppm} &= \frac{0,506 - 0,287}{0,579 - 0,287} \times 100\% \\
 &= \frac{0,219}{0,492} \times 100\% \\
 &= 44,51\% \\
 60 \text{ ppm} &= \frac{0,475 - 0,287}{1,111 - 0,287} \times 100\% \\
 &= \frac{0,188}{0,824} \times 100\% \\
 &= 22,84\%
 \end{aligned}$$

E. Perhitungan Nilai IC50

1. Perhitungan IC50 sampel daun dengan

$$\text{Rumus} : \text{IC50} = \frac{50-a}{b}$$

Keterangan : IC50: Konsentrasi hambatan

a : titik potong kurva pada sumbu y (Intercep)

b : Kemiringan kurva(slope)

$$\text{IC50 : Y} = 0,2353x + 17,2$$

$$X = \frac{50-17,2}{0,2353}$$

$$\text{IC50} = 139,39 \text{ ppm}$$

2. Perhitungan nilai IC50 standar (asam askorbat)

$$\text{IC50 : Y} = 0,0087x + 0,393$$

$$X = \frac{50-0,393}{0,0087}$$

$$\text{IC50} = 57,01 \text{ ppm}$$

F. Perhitungan Kapasitas Antioksidan (mgAAE/g)

$$\text{Rumus} : \text{AAE} = \frac{C \times m}{V}$$

Keterangan : AAE = Aktivitas antioksidan (mg AAE/g sampel)

C = Konsentrasi sampel

V = Volume pelarut mL.

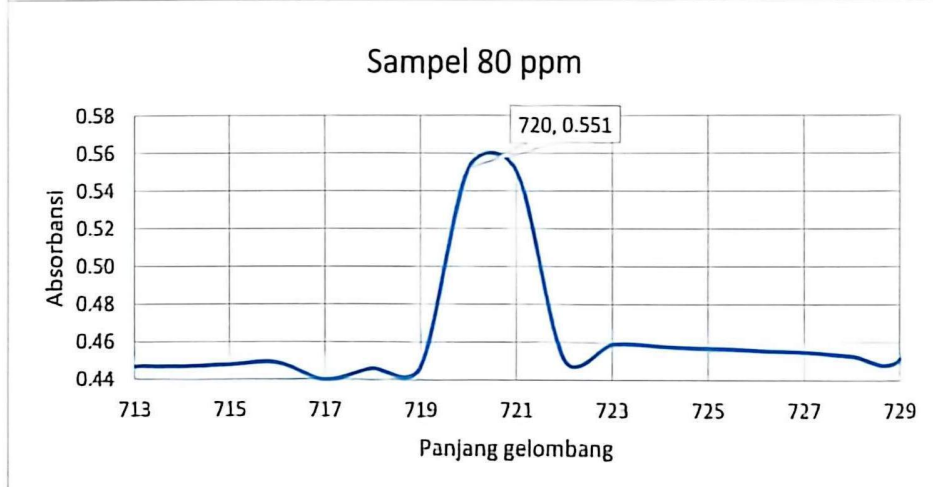
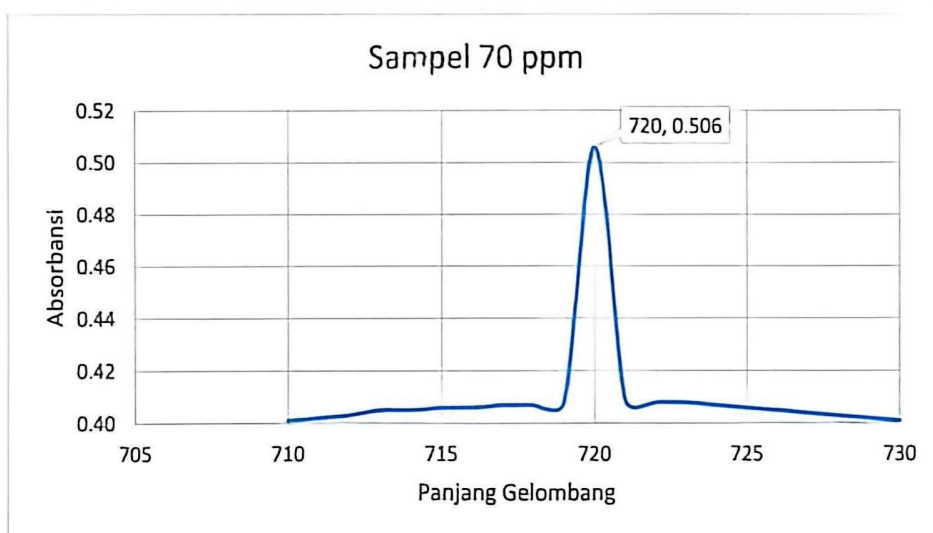
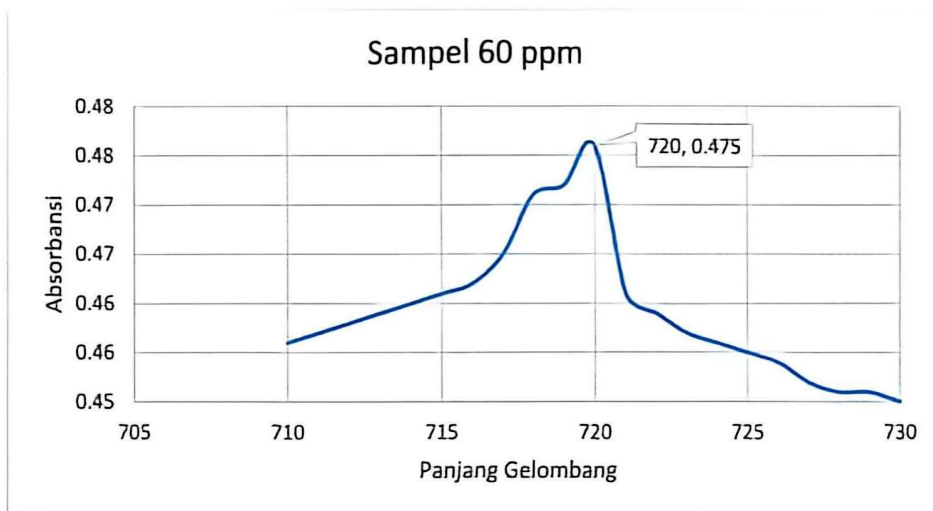
m = Berat sampel / Massa

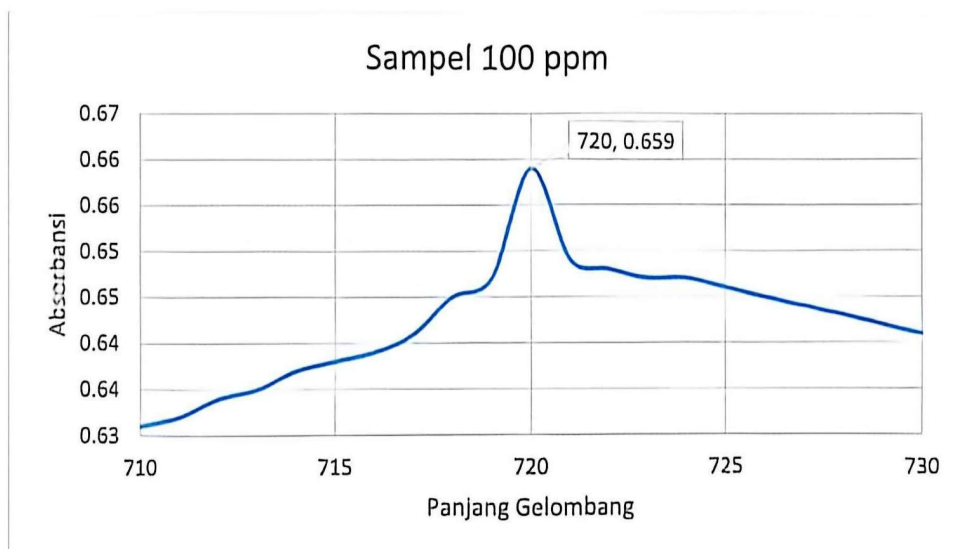
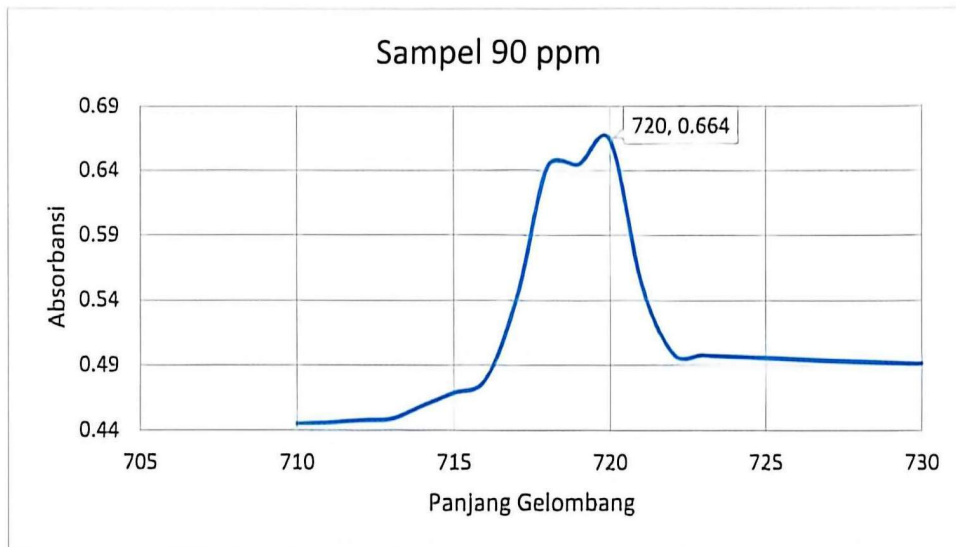
$$\text{Diketahui} : V = 5 \text{ ml} / 0,0005$$

	$m = 5\text{mg} / 0.005$
Nilai y	$= 0.0087x + 0,393$
100 ppm	$= \frac{0,659-0,393}{0,0087}$
	$= 30,57 \text{ ppm}$
AAEC	$= \frac{30,57 \times 0,005}{0.0005}$
	$= 305,7 \text{ mgAAE/g}$
90 ppm	$= \frac{0,664-0,393}{0,0087}$
	$= 31,14 \text{ ppm}$
AAEC	$= \frac{31,14 \times 0,005}{0.0005}$
	$= 311,4 \text{ mgAAE/g}$
80 ppm	$= \frac{0,551-0,393}{0,0087}$
	$= 18,16 \text{ ppm}$
AAEC	$= \frac{18,27 \times 0,005}{0.0005}$
	$= 181,6 \text{ mgAAE/g}$
70 ppm	$= \frac{0,506-0,393}{0,0087}$
	$= 17,98 \text{ ppm}$
AAEC	$= \frac{17,98 \times 0,005}{0.0005}$
	$= 179,8 \text{ mgAAE/g}$
60 ppm	$= \frac{0,476-0,393}{0,0087}$
	$= 9,54 \text{ ppm}$
AAEC	$= \frac{9,54 \times 0,005}{0.0005}$
	$= 95,4 \text{ mgAAE/g}$

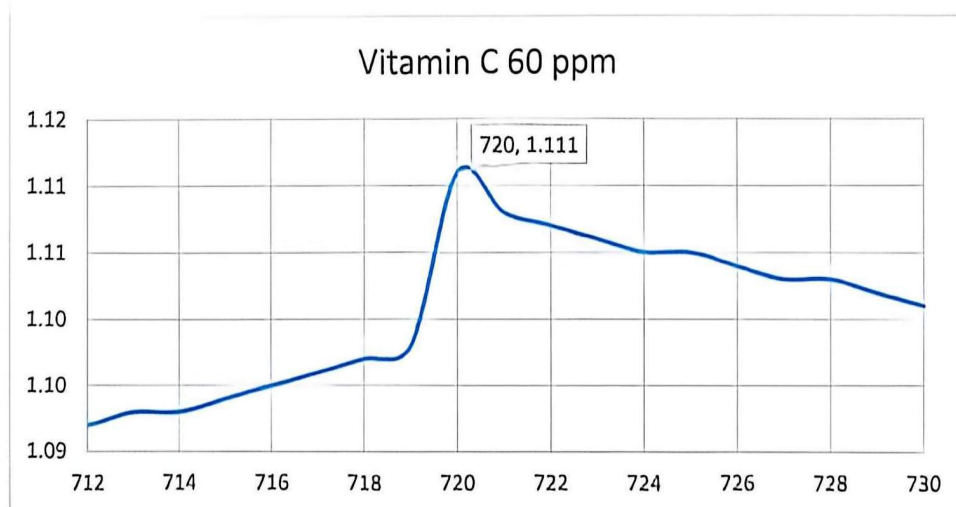
Lampiran II. Gambar spektrofotometri

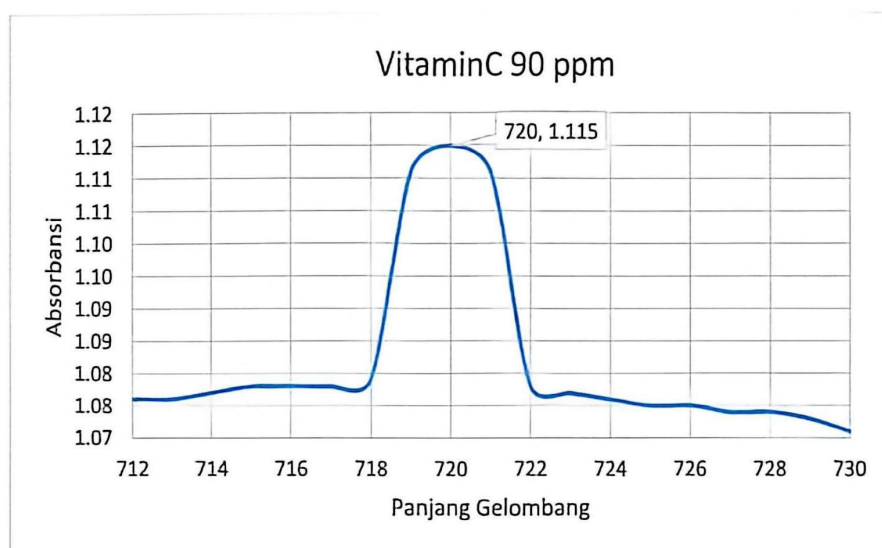
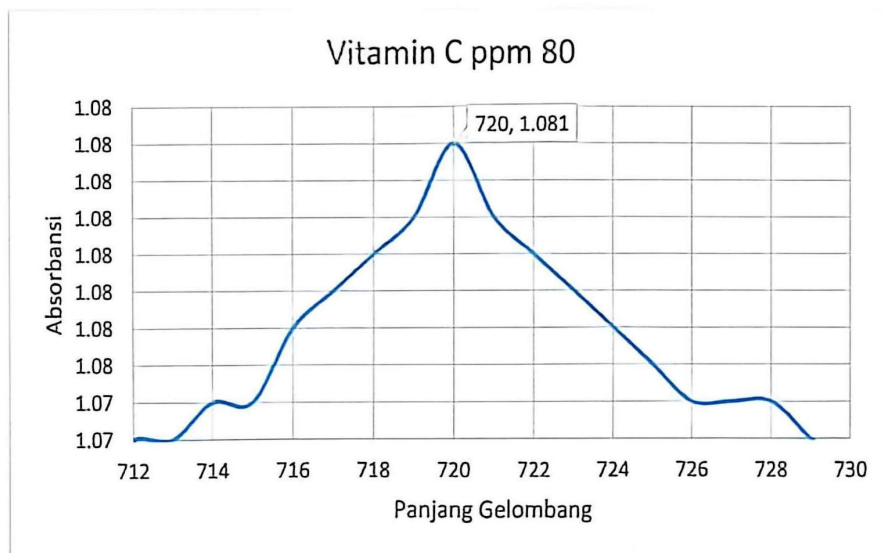
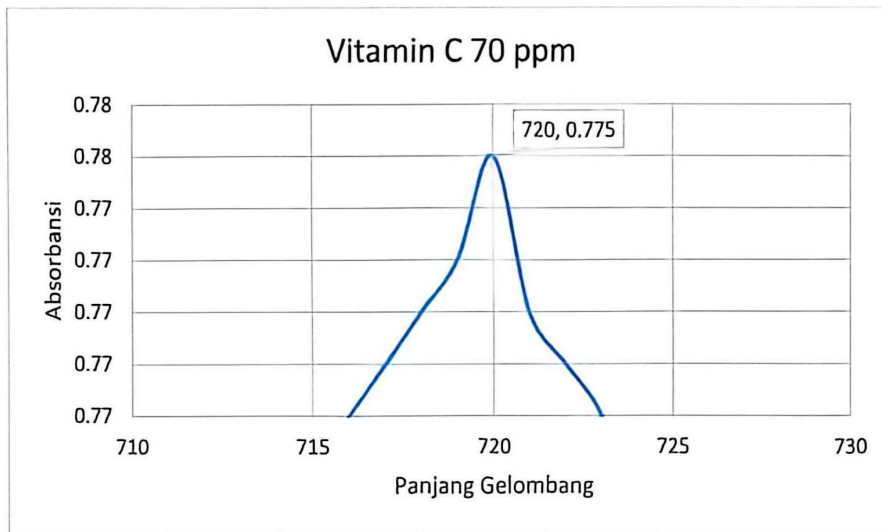
1. Absorbansi sampel

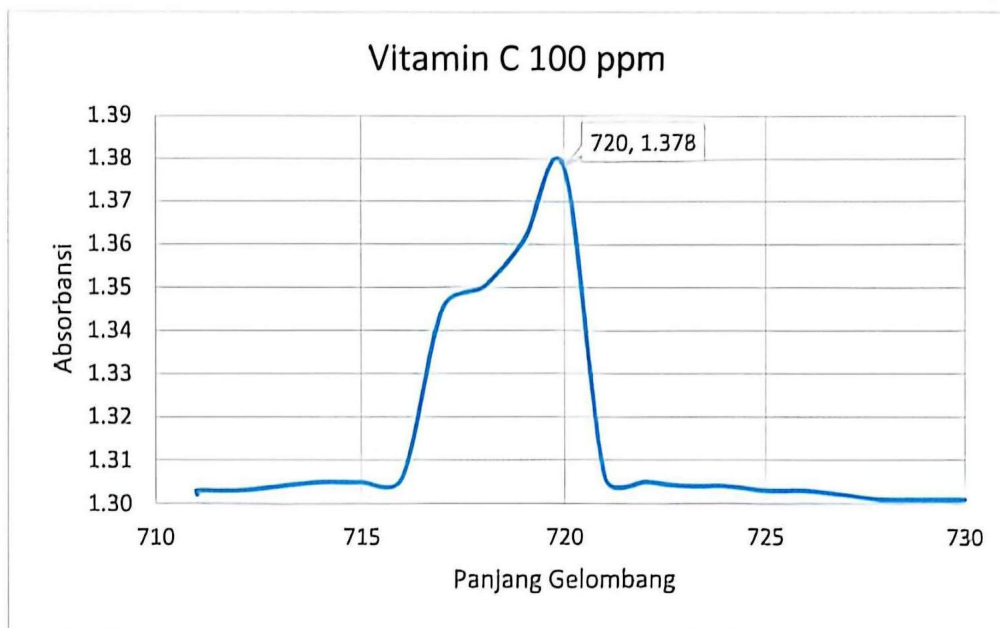




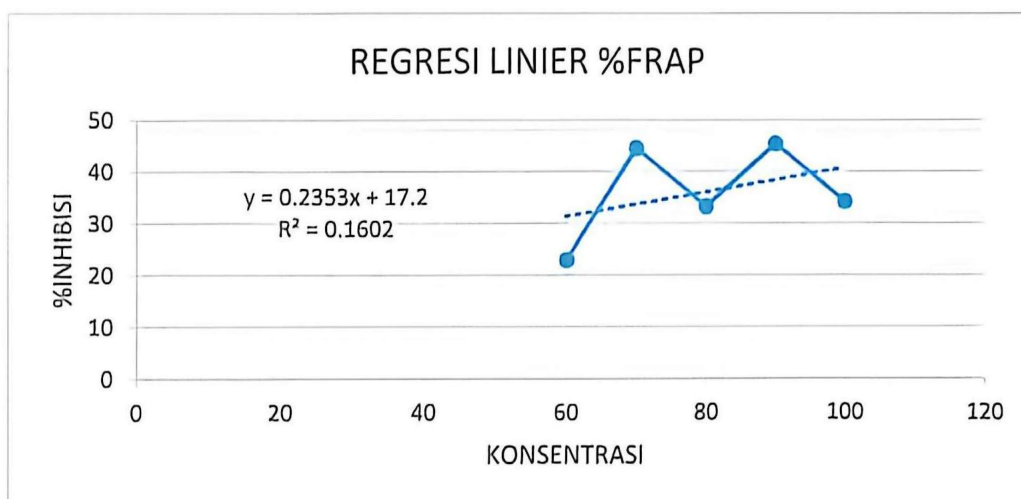
2. Absorbansi Standar (Vit.C)



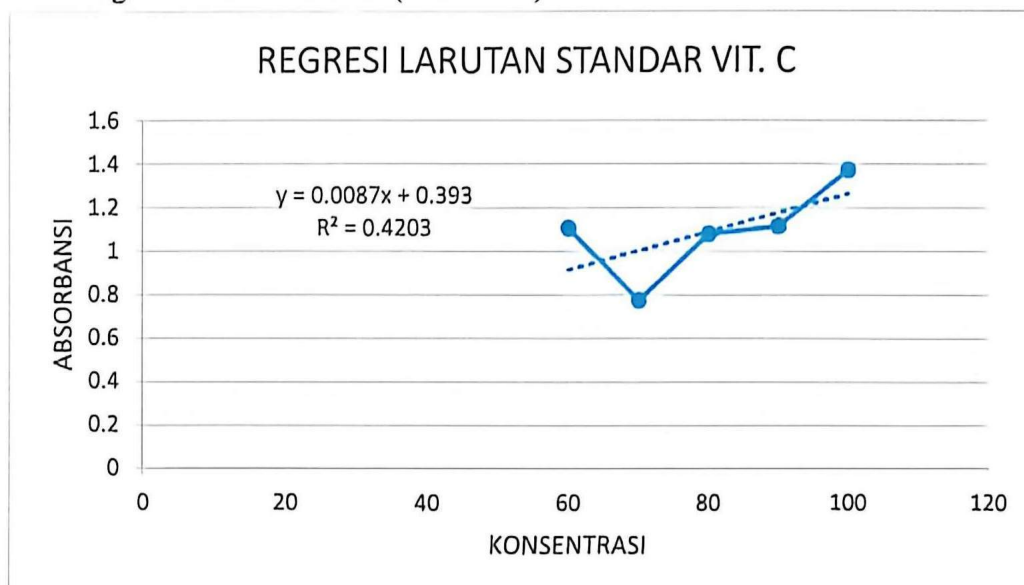




3. Regresi linier sampel



4. Hasil Regresi larutan standar (Vitamin c)



Lampiran III Proses penelitian



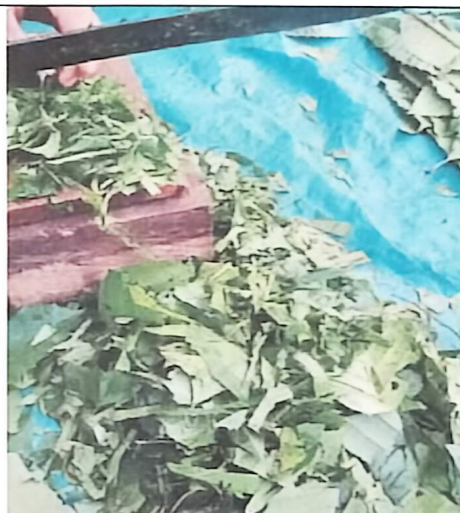
Proses pengambilan sampel



Sortasi basah



Pencucian



Perajangan sampel



Perajangan



Pengeringan



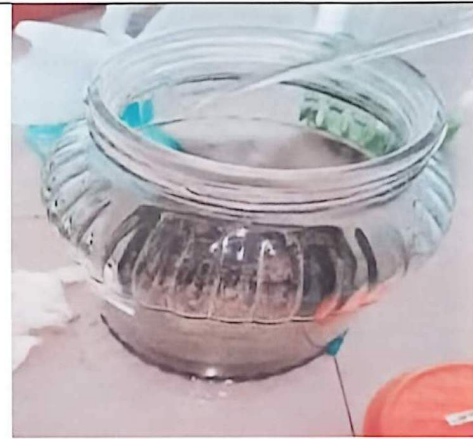
Sortasi kering



Penghalusan



Penimbangan Sampel



Proses ekstraksi



Proses maserasi



Remaserasi 3 hari



Proses penyaringan sampel



Proses rotary



Proses penguapan sisa pelarut



Hasil ekstraksi



Sampel basah 26,35 kg



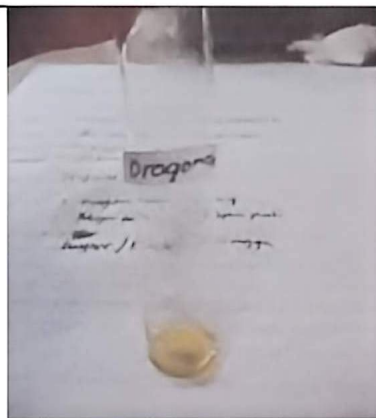
Sampel kering 6kg



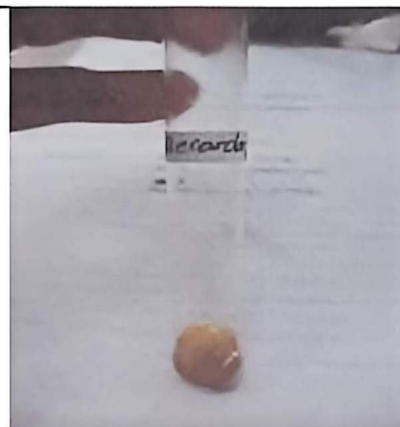
Sampel maserasi 100 gram



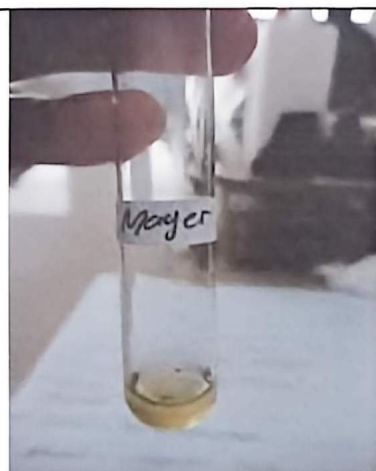
Hasil ekstrak kental 11.6 gram



Pereaksi dragondraf



Pereaksi becordat



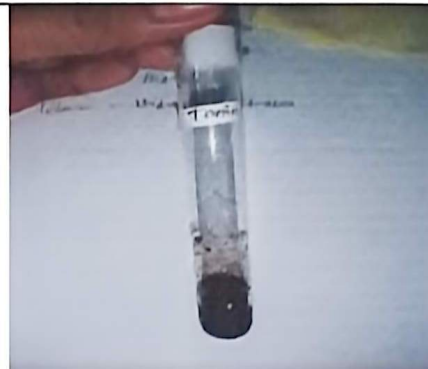
Pereaksi mayer



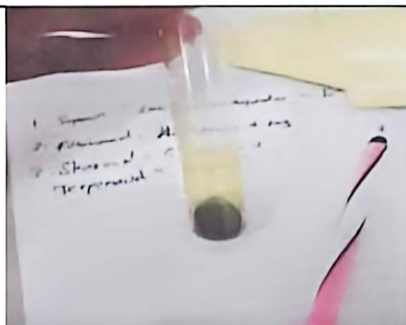
Hasil mayer: endapan putih



Flavonoid
(Mg + HCl pekat)



Tanain : FcCl3



Steroid
(Potreleum eter + Asam asetat)



Saponin
(Aqoades panas + asam klorida 2N)



Larutan baku 1000 ppm



Pengenceran larutan



Penimbangan sampel



Sebelum penambahan trikloroasetat dan FeCl_3



Setelah penambahan Larutan Trikloroasetat dan FeCl_3



Inkubasi selama 10 menit setelah dilakukan pengujian



Olah data spektrofotometri



Pengolahan data spektrofotometri