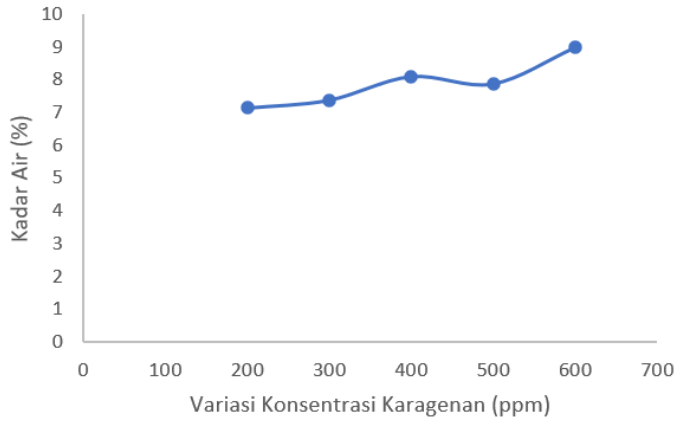
LAMPIRAN

A. Lampiran Perhitungan

1. Uji Kadar Air



- Variasi 200 ppm

  Berat awal (W) = 1,4 gram

  Berat akhir (W1) = 1,3 gram

  Kadar air basis kering =

  $$Kadar\ Air\ (\%) = \frac{W\ -\ W1}{100\ /\ W}$$

  Kadar air = 7,142 %

- Variasi 300 ppm

  Berat awal (W) = 1,49 gram

  Berat akhir (W1) = 1,38 gram

  Kadar air = 7,382%

- Variasi 400 ppm

  Berat awal (W) = 1,85 gram

  Berat akhir (W1) = 1,7 gram

  Kadar air = 8,108%

- Variasi 500 ppm

  Berat awal (W) = 2,41 gram

  Berat akhir (W1) = 2,22 gram

  Kadar air = 7,883%

- Variasi 600 ppm

  Berat awal (W) = 1,49 gram

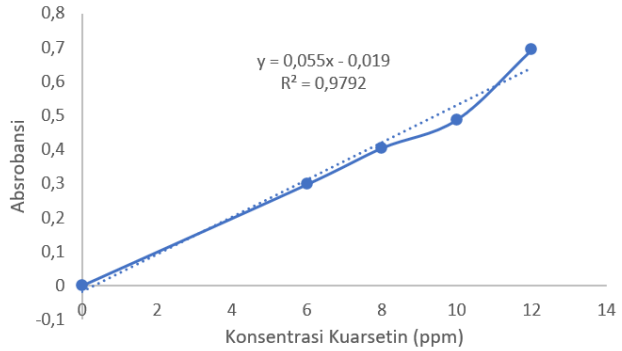
  Berat akhir (W1) = 1,38 gram

  Kadar air = 8,994%

2. Uji Flavonoid Total

Sebelum mencari kadar flavonoid total, menentukan standar quarsetin untuk diperoleh kurva.

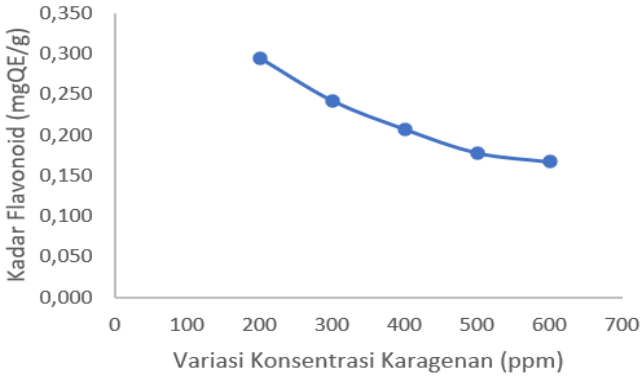
Konsentrasi (ppm)	Absorbansi
0	0
6	0,298
8	0,405
10	0,488
12	0,694



a = -0,019

b = 0,055

R^2 = 0,9792



$$F = \frac{c \; x \; V \; x \; f}{m}$$

- Variasi sampel 200 ppm

  - Absorban replika 1 = 0,15

  c = (absorban-a)/b

  c = (0,15-(-0,019))/0,055

  c = 3,073

  V = 6 ml

  f = 1

  Massa = 50 gr

  Kadar Flavonoid (F1) = (3,073 x 6 x 1)/50 = 0,369 mgQE/g

  - Absorban replika 2 = 0,099

  c = 2,145

  Kadar Flavonoid (F2) = 0,257 mgQE/g

  - Absorban replika 3 = 0,099

  c = 2,145

  Kadar Flavonoid (F3) = 0,257 mgQE/g

  Rata-rata kadar flavonoid

  $\frac{F1+F2+F3}{3} = \frac{0,369 + 0,257 + 0,257}{3}$ = 0,295 mgQE/g

- Variasi sampel 300 ppm

  - Absorban replika 1 = 0,095

  c = 2,073

  V = 6 ml

f = 1

Massa = 50 gr

Kadar Flavonoid (F1) = 0,249 mgQE/g

- Absorban replika 2 = 0,092

c = 2,018

Kadar Flavonoid (F2) = 0,242 mgQE/g

- Absorban replika 3 = 0,089

c = 1,964

Kadar Flavonoid (F3) = 0,236 mgQE/g

Rata-rata kadar flavonoid = 0,242 mgQE/g

- Variasi sampel 400 ppm

  - Absorban replika 1 = 0,077

  c = 1,745

  V = 6 ml

  f = 1

  Massa = 50 gr

  Kadar Flavonoid (F1) = 0,209 mgQE/g

  - Absorban replika 2 = 0,076

  c = 1,727

  Kadar Flavonoid (F2) = 0,207 mgQE/g

  - Absorban replika 3 = 0,075

  c = 1,709

Kadar Flavonoid (F3) = 0,205 mgQE/g

Rata-rata kadar flavonoid = 0,207 mgQE/g

- Variasi sampel 500 ppm

  - Absorban replika 1 = 0,066

  c = 1,545

  V = 6 ml

  f = 1

  Massa = 50 gr

  Kadar Flavonoid (F1) = 0,185 mgQE/g

  - Absorban replika 2 = 0,062

  c = 1,473

  Kadar Flavonoid (F2) = 0,178 mgQE/g

  - Absorban replika 3 = 0,06

  c = 1,436

  Kadar Flavonoid (F3) = 0,172 mgQE/g

  Rata-rata kadar flavonoid = 0,178 mgQE/g

- Variasi sampel 600 ppm

  - Absorban replika 1 = 0,062

  c = 1,473

  V = 6 ml

  f = 1

  Massa = 50 gr

Kadar Flavonoid (F1) = 0,177 mgQE/g

- Absorban replika 2 = 0,057

c = 1,382

Kadar Flavonoid (F2) = 0,166 mgQE/g

- Absorban replika 3 = 0,054

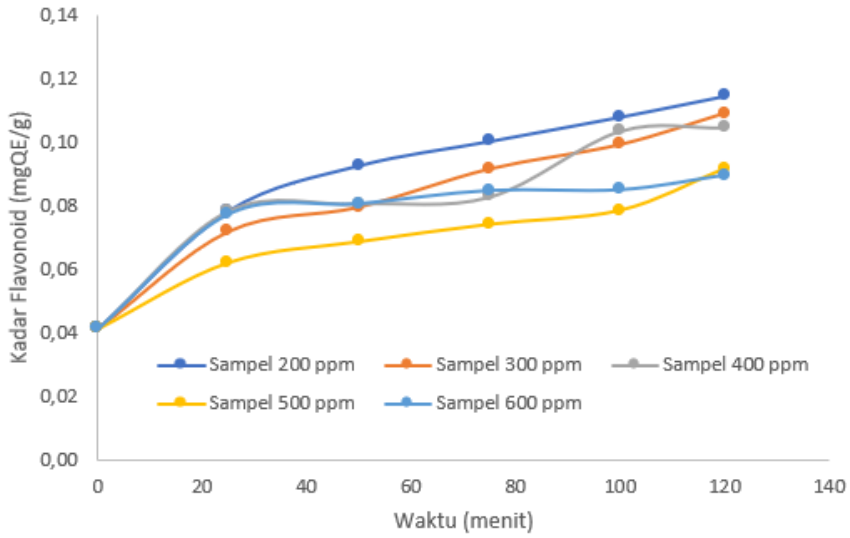
c = 1,327

Kadar Flavonoid (F3) = 0,159 mgQE/g

Rata-rata kadar flavonoid = 0,167 mgQE/g

3. Uji *Release*

Sampel 200 ppm diperoleh hasil absorban dalam rentang waktu 0 – 120 menit.



a = -0,019

b = 0,055

c = (absorban-a)/b

$$F = \frac{c\ x\ V\ x\ f}{m}$$

Sampel 200 ppm						
Menit	Absorban	nilai c	nilai V (ml)	nilai f	nilai m (gr)	Kadar Flavonoid
0	0	0,345	6	1	50	0,04
25	0,017	0,655	6	1	50	0,08
50	0,0235	0,773	6	1	50	0,09
75	0,027	0,836	6	1	50	0,100
100	0,0305	0,900	6	1	50	0,108
120	0,0335	0,955	6	1	50	0,115

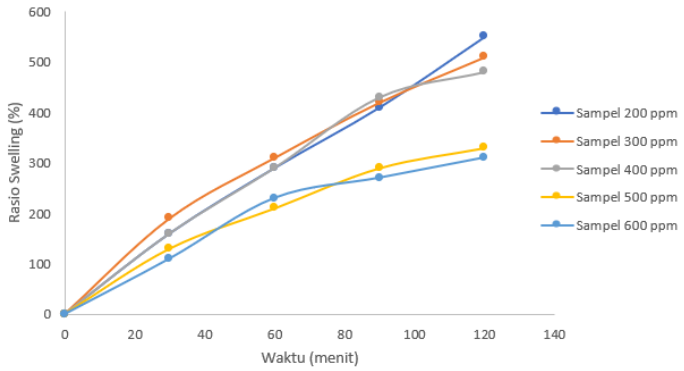
Sampel 300 ppm						
Menit	Absorban	nilai c	nilai V (ml)	nilai f	nilai m (gr)	Kadar Flavonoid
0	0	0,345	6	1	50	0,041
25	0,014	0,600	6	1	50	0,072
50	0,0175	0,664	6	1	50	0,080
75	0,023	0,764	6	1	50	0,092
100	0,0265	0,827	6	1	50	0,099
120	0,031	0,909	6	1	50	0,11

Sampel 400 ppm						
Menit	Absorban	nilai c	nilai V (ml)	nilai f	nilai m (gr)	Kadar Flavonoid
0	0	0,345	6	1	50	0,041
25	0,017	0,655	6	1	50	0,079
50	0,018	0,673	6	1	50	0,081
75	0,019	0,691	6	1	50	0,083
100	0,0285	0,864	6	1	50	0,104
120	0,029	0,873	6	1	50	0,105

Sampel 500 ppm						
Menit	Absorban	nilai c	nilai V (ml)	nilai f	nilai m (gr)	Kadar Flavonoid
0	0	0,3455	6	1	50	0,041
25	0,0095	0,5182	6	1	50	0,062
50	0,0125	0,5727	6	1	50	0,069
75	0,015	0,6182	6	1	50	0,074
100	0,017	0,6545	6	1	50	0,079
120	0,023	0,7636	6	1	50	0,092

Sampel 600 ppm						
Menit	Absorban	nilai c	nilai V (ml)	nilai f	nilai m (gr)	Kadar Flavonoid
0	0	0,3455	6	1	50	0,041
25	0,0165	0,6455	6	1	50	0,077
50	0,018	0,6727	6	1	50	0,081
75	0,0199	0,7073	6	1	50	0,085
100	0,02	0,7091	6	1	50	0,085
120	0,0221	0,7473	6	1	50	0,090

4. Uji *Swelling*



Menit = 0 , berat sampel = 0,1 gram (1)

Menit = 30, berat sampel = 0,26 gram (2)

% kenaikkan *swelling* =((berat 2 – berat 1)/berat 1) x 100

% kenaikkan *swelling* = ((0,26 – 0,1)/0,1) x 100) = 160%

Sampel 200 ppm		
menit	berat (gram)	%
0	0,1	0
30	0,26	160
60	0,39	290
90	0,51	410
120	0,65	550

Sampel 300 ppm		
menit	berat (gram)	%
0	0,1	0
30	0,29	190
60	0,41	310
90	0,52	420
120	0,61	510

Sampel 400 ppm		
menit	berat (gram)	%
0	0,1	0
30	0,26	160
60	0,39	290
90	0,53	430
120	0,58	480

Sampel 500 ppm		
menit	berat (gram)	%
0	0,1	0
30	0,23	130
60	0,31	210
90	0,39	290
120	0,43	330

Sampel 600 ppm		
menit	berat (gram)	%
0	0,1	0
30	0,21	110
60	0,33	230
90	0,37	270
120	0,41	310

B. Lampiran Dokumentasi Penelitian

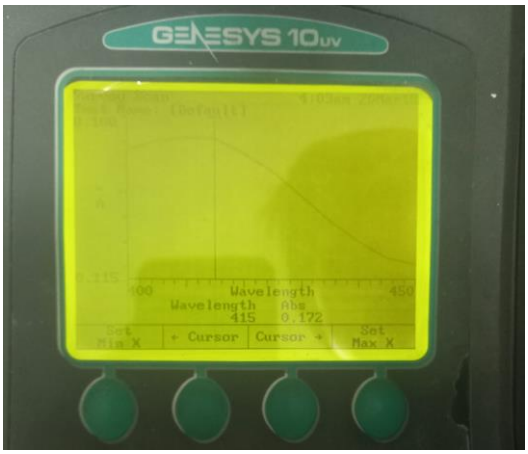
1. Penimbangan daun pepaya jepang

2. Penjemuran daun pepaya jepang dengan sinar matahari

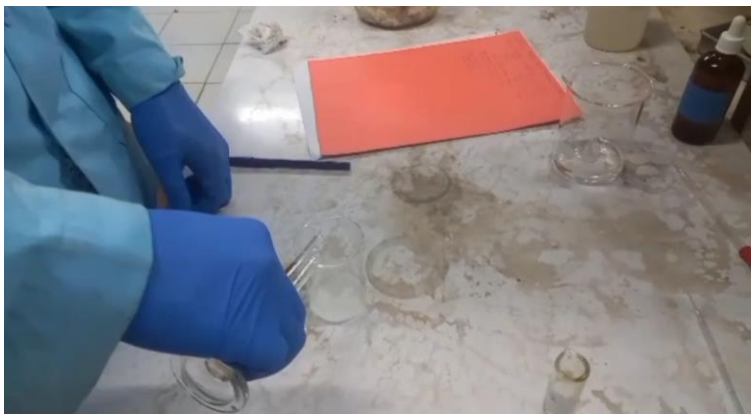
3. Penghalusan daun pepaya jepang setelah kering

4. Ekstraksi (maserasi) daun pepaya Jepang

5. Hasil uji kandungan flavonoid daun papaya jepang menggunakan *spektrofotometri Uv-Vis*



6. Pembuatan prekursor enkapsulasi

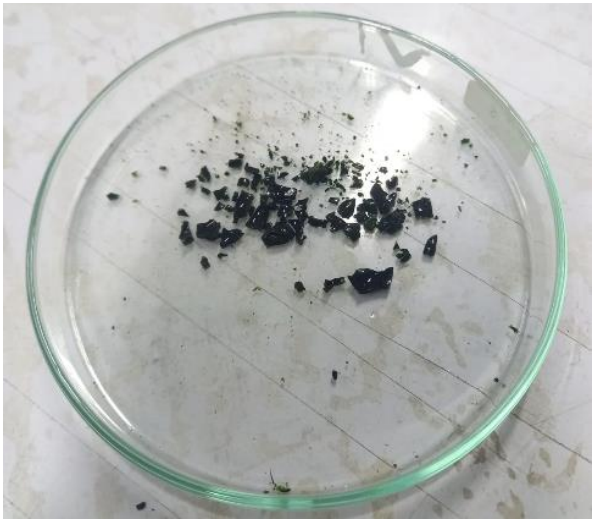


7. Proses pengadukan dengan *hot magnetic stirrer*

8. Setelah pengadukan

9. Pengeringan dalam *oven*

10. Setelah pengeringan dalam *oven*



11. Setelah dihaluskan

12. Hasil sampel variasi 200, 300, 400, 500, dan 600 ppm