

LAMPIRAN

Lampiran 1. Determinasi Tanaman Biji Labu Kuning



BAGIAN BIOLOGI FARMASI
FAKULTAS FARMASI
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SURAT KETERANGAN
 No.: BF/246/Ident/Des/VI/2014

Kepada Yth
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 Universitas Muhammadiyah Yogyakarta
 DI Yogyakarta

Dengan hormat,

Bersama ini kami sampaikan hasil identifikasi-determinasi sampel yang Saudara kirimkan ke Bagian Biologi Farmasi, Fakultas Farmasi UGM, adalah

No. Pendaftaran	Jenis	Suku
246	Cucurbita moschata (Duch.) Poir	Cucurbitaceae

Demikian, semoga dapat digunakan sebagaimana mestinya

Yogyakarta, 5 Juni 2014
 Ketua



Prof. Dr. Wahyono, S.U., Apt.
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Lampiran 2. Sertifikat Bakteri *Staphylococcus aureus*



UNIVERSITAS GADJAH MADA
PUSAT STUDI PANGAN DAN GIZI

SERTIFIKAT MIKROBIA
FNCC-PSPG/22/III2016

Staphylococcus aureus FNCC 0047

Bentuk sel	: Bulat/ coccus
Pengecatan gram	: Positif
Susunan sel	: Berkelompok
Kebutuhan oksigen	: aerob
Motilitas	: Tidak motil (tidak bergerak)
Pembentukan Spora	: Tidak (negatif)
Katalase	: Positif
Tes koagulase	: Positif
pH optimum	: 7
Suhu Optimum	: 37°C
Pathologi	: Pathogen

Yogyakarta, 14 Maret 2016
Kurator FNCC

Prof. Dr. Ir. Endang S. Rahayu

Lampiran 3. Proses Ekstraksi



Serbuk Biji *C. moschata*



Pengadukan pada proses maserasi



Proses Penyaringan



Maserat



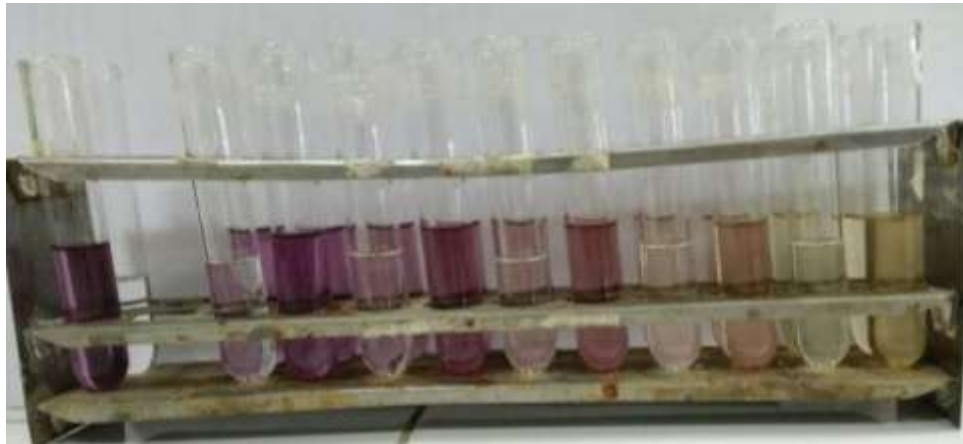
ekstrak etanol biji *C. moschata*

➤ Perhitungan Rendemen:

$$\begin{aligned}\text{Rendemen}(\%) &= \frac{\text{bobot ekstrak yang didapat (g)}}{\text{bobot serbuk biji } C. \text{moschata (g)}} \times 100\% \\ &= \frac{2,8171 \text{ g}}{75 \text{ g}} \times 100\% \\ &= 3,7561\% \text{ } b/b\end{aligned}$$

Lampiran 4. Uji Aktivitas Antioksidan

1. Perubahan Warna Setelah Operating Time



2. Hasil Pembacaan Nilai Absorbansi:

a. Kuersetin

Replikasi ke-	Nilai Absorbansi pada Seri Kadar-				
	1µg/ml	2µg/ml	3µg/ml	4µg/ml	5µg/ml
1	0,463	0,334	0,231	0,132	0,048
2	0,459	0,347	0,236	0,132	0,046
3	0,478	0,355	0,245	0,121	0,038
Rata-rata					

b. Ekstrak etanolik biji *C. moschata*

Replikasi ke-	Nilai Absorbansi pada Seri Kadar-					
	25µg/ml	50µg/ml	75µg/ml	100µg/ml	125µg/ml	150µg/ml
1	0,547	0,530	0,516	0,506	0,485	0,473
2	0,556	0,537	0,520	0,501	0,485	0,460
3	0,549	0,518	0,511	0,502	0,489	0,461
Rata-rata						

3. Perhitungan % inhibisi

Rumus:

$$\% \text{ inhibisi} = \frac{(\text{absorbansi DPPH} - \text{absorbansi sampel})}{\text{absorbansi DPPH}} \times 100\%$$

a. Kuersetin

i. Konsentrasi 1 μ g/ml

Replikasi 1

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,463)}{0,584} \times 100\% \\ &= 20,71\%\end{aligned}$$

Replikasi 2

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,459)}{0,584} \times 100\% \\ &= 21,40\%\end{aligned}$$

Replikasi 3

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,478)}{0,584} \times 100\% \\ &= 18,15\%\end{aligned}$$

ii. Konsentrasi 2 μ g/ml

Replikasi 1

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,334)}{0,584} \times 100\% \\ &= 42,80\%\end{aligned}$$

Replikasi 2

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,347)}{0,584} \times 100\% \\ &= 40,58\%\end{aligned}$$

Replikasi 3

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,355)}{0,584} \times 100\% \\ &= 39,21\%\end{aligned}$$

iii. Konsentrasi 3 μ g/ml

Replikasi 1

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,231)}{0,584} \times 100\% \\ &= 60,44\%\end{aligned}$$

Replikasi 2

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,236)}{0,584} \times 100\% \\ &= 59,58\%\end{aligned}$$

Replikasi 3

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,245)}{0,584} \times 100\% \\ &= 58,04\%\end{aligned}$$

iv. Konsentrasi 4 μ g/ml

Replikasi 1

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,132)}{0,584} \times 100\% \\ &= 77,39\%\end{aligned}$$

Replikasi 2

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,132)}{0,584} \times 100\% \\ &= 77,39\%\end{aligned}$$

Replikasi 3

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,121)}{0,584} \times 100\% \\ &= 79,28\%\end{aligned}$$

v. Konsentrasi 5 μ g/ml

Replikasi 1

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,048)}{0,584} \times 100\% \\ &= 91,78\%\end{aligned}$$

Replikasi 2

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,046)}{0,584} \times 100\% \\ &= 92,12\%\end{aligned}$$

Replikasi 3

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,038)}{0,584} \times 100\% \\ &= 93,49\%\end{aligned}$$

b. Ekstrak etanolik biji *C. moschata*

i. Konsentrasi 25 μ g/ml

Replikasi 1

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,547)}{0,584} \times 100\% \\ &= 6,33\%\end{aligned}$$

Replikasi 2

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,556)}{0,584} \times 100\% \\ &= 4,79\%\end{aligned}$$

Replikasi 3

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,549)}{0,584} \times 100\% \\ &= 5,99\%\end{aligned}$$

ii. Konsentrasi 50 μ g/ml

Replikasi 1

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,530)}{0,584} \times 100\% \\ &= 9,24\%\end{aligned}$$

Replikasi 2

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,537)}{0,584} \times 100\% \\ &= 8,04\%\end{aligned}$$

Replikasi 3

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,518)}{0,584} \times 100\% \\ &= 11,30\%\end{aligned}$$

iii. Konsentrasi 75µg/ml

Replikasi 1

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,516)}{0,584} \times 100\% \\ &= 11,64\%\end{aligned}$$

Replikasi 2

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,520)}{0,584} \times 100\% \\ &= 10,95\%\end{aligned}$$

Replikasi 3

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,511)}{0,584} \times 100\% \\ &= 12,5\%\end{aligned}$$

iv. Konsentrasi 100µg/ml

Replikasi 1

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,506)}{0,584} \times 100\% \\ &= 13,35\%\end{aligned}$$

Replikasi 2

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,501)}{0,584} \times 100\% \\ &= 14,21\%\end{aligned}$$

Replikasi 3

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,502)}{0,584} \times 100\% \\ &= 14,04\%\end{aligned}$$

v. Konsentrasi 125µg/ml

Replikasi 1

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,485)}{0,584} \times 100\% \\ &= 16,95\%\end{aligned}$$

Replikasi 2

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,485)}{0,584} \times 100\% \\ &= 16,95\%\end{aligned}$$

Replikasi 3

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,489)}{0,584} \times 100\% \\ &= 16,26\%\end{aligned}$$

vi. Konsentrasi 150 μ g/ml

Replikasi 1

$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,473)}{0,584} \times 100\% \\ &= 19,00\%\end{aligned}$$

Replikasi 2

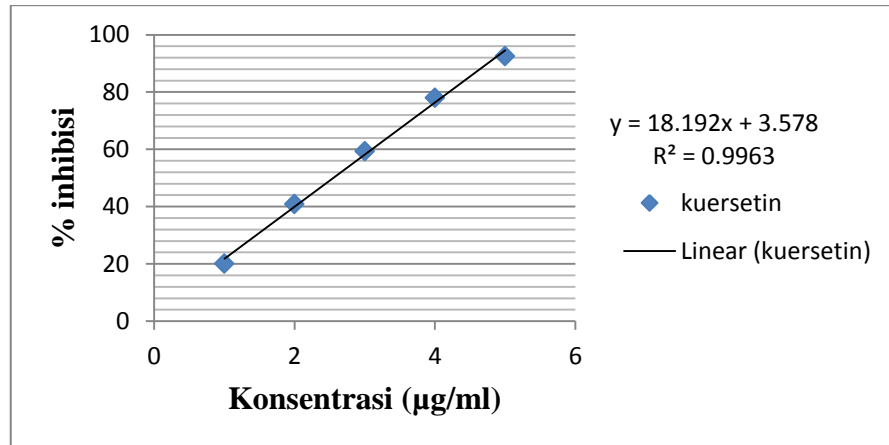
$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,460)}{0,584} \times 100\% \\ &= 21,23\%\end{aligned}$$

Replikasi 3

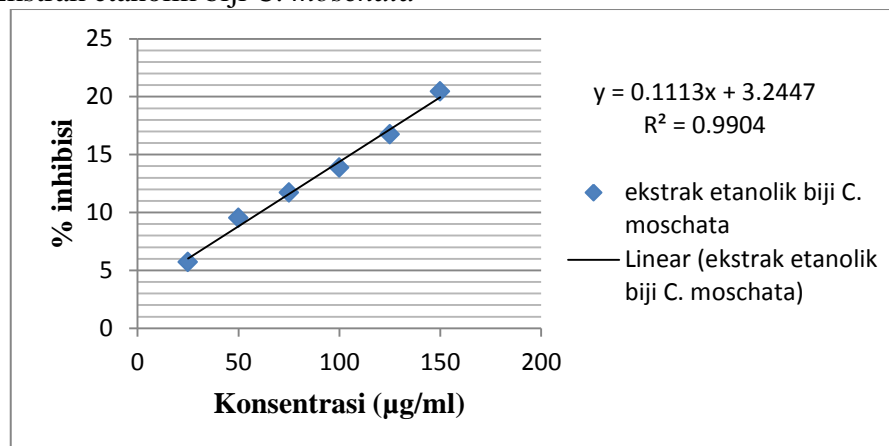
$$\begin{aligned}\% \text{ inhibisi} &= \frac{(0,584 - 0,461)}{0,584} \times 100\% \\ &= 21,06\%\end{aligned}$$

4. Kurva Regresi Linier Hubungan % Inhibisi dengan Seri Kadar Ekstrak Etanolik Biji *C. moschata*

a. Kuersetin



b. Ekstrak etanolik biji *C. moschata*



5. Perhitungan IC_{50}

a. Kuersetin

$$Y = 18,192x + 3,578$$

$$50 = 18,192x + 3,578$$

$$46,422 = 18,192x$$

$$X = 2,55$$

Aktivitas hambat antioksidan kuersetin mencapai 50% pada konsentrasi 2,55 $\mu\text{g/ml}$.

b. Ekstrak etanolik biji *C. moschata*

$$Y = 0,1113x + 3,2447$$

$$50 = 0,1113x + 3,2447$$

$$46,7553 = 0,1113x$$

$$X = 420,08$$

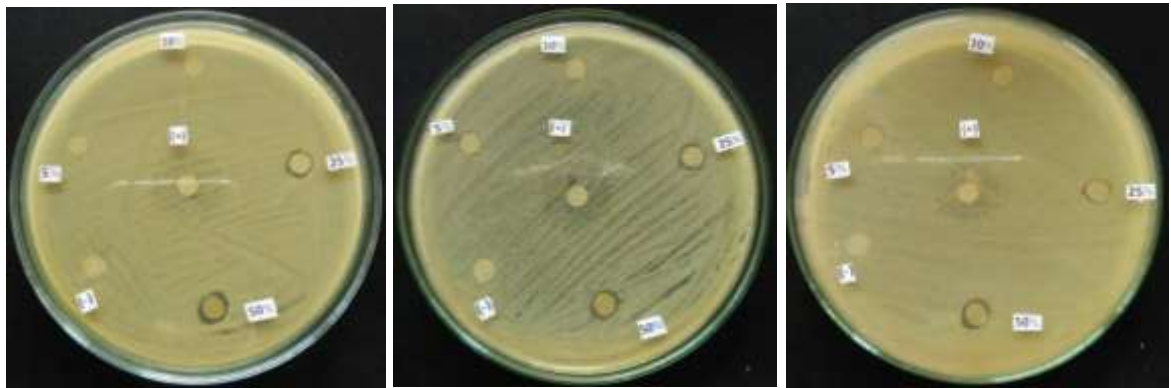
Maka aktivitas hambat antioksidan ekstrak etanolik biji *C. moschata* mencapai 50% pada konsentrasi 420,08 $\mu\text{g/ml}$.

Lampiran 5. Uji Aktivitas Antibakteri



Ekstrak etanolik biji *C. moschata* dilarutkan dalam DMSO

1. Hasil pengamatan DZI uji antimikroba (pembanding tetrasiklin)

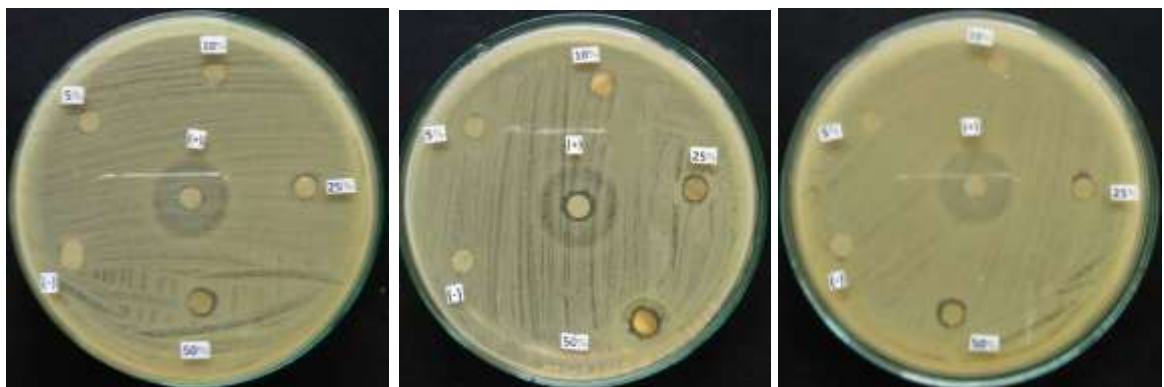


Replikasi 1

Replikasi 2

Replikasi 3

2. Hasil pengamatan DZI uji antimikroba (pembanding ciprofloksasin)



Replikasi 1

Replikasi 2

Replikasi 3