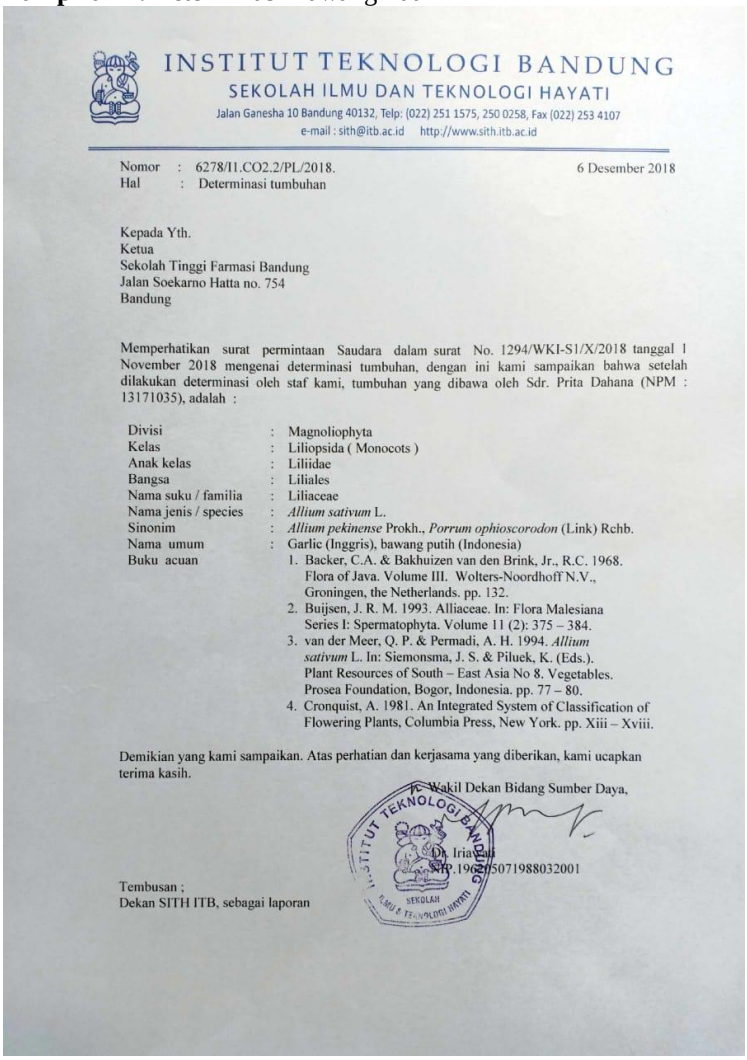
LAMPIRAN

Lampiran 1. Determinasi Bawang Putih



INSTITUT TEKNOLOGI BANDUNG
SEKOLAH ILMU DAN TEKNOLOGI HAYATI
Jalan Ganesha 10 Bandung 40132, Telp: (022) 251 1575, 250 0258, Fax (022) 253 4107
e-mail : sith@itb.ac.id http://www.sith.itb.ac.id

Nomor : 6278/I1.CO2.2/PL/2018. 6 Desember 2018
Hal : Determinasi tumbuhan

Kepada Yth.
Ketua
Sekolah Tinggi Farmasi Bandung
Jalan Soekarno Hatta no. 754
Bandung

Memperhatikan surat permintaan Saudara dalam surat No. 1294/WKI-S1/X/2018 tanggal 1 November 2018 mengenai determinasi tumbuhan, dengan ini kami sampaikan bahwa setelah dilakukan determinasi oleh staf kami, tumbuhan yang dibawa oleh Sdr. Prita Dahana (NPM : 13171035), adalah :

Divisi	:	Magnoliophyta
Kelas	:	Liliopsida (Monocots)
Anak kelas	:	Liliidae
Bangsa	:	Liliales
Nama suku / familia	:	Liliaceae
Nama jenis / species	:	*Allium sativum* L.
Sinonim	:	*Allium pekinense* Prokh., *Porrum ophioscorodon* (Link) Rchb.
Nama umum	:	Garlic (Inggris), bawang putih (Indonesia)
Buku acuan		1. Backer, C.A. & Bakhuizen van den Brink, Jr., R.C. 1968. Flora of Java. Volume III. Wolters-Noordhoff N.V., Groningen, the Netherlands. pp. 132. 2. Buijsen, J. R. M. 1993. Alliaceae. In: Flora Malesiana Series I: Spermatophyta. Volume 11 (2): 375 – 384. 3. van der Meer, Q. P. & Permadi, A. H. 1994. *Allium sativum* L. In: Siemonsma, J. S. & Piluek, K. (Eds.). Plant Resources of South – East Asia No 8. Vegetables. Prosea Foundation, Bogor, Indonesia. pp. 77 – 80. 4. Cronquist, A. 1981. An Integrated System of Classification of Flowering Plants, Columbia Press, New York. pp. Xiii – Xviii.

Demikian yang kami sampaikan. Atas perhatian dan kerjasama yang diberikan, kami ucapkan terima kasih.

A.n. Wakil Dekan Bidang Sumber Daya,

Dr. Iria Zuni
NIP. 196205071988032001

Tembusan ;
Dekan SITH ITB, sebagai laporan

Lampiran 2. Bawang Putih dan Bawang Hitam

Bawang Putih

Bawang Hitam

Lampiran 3. Perhitungan Rendemen Ekstrak dan Fraksi

Ekstrak kental yang didapatkan kemudian ditimbang dan didapat sebanyak 276,18 gram

Rendemen yang dihasilkan = $\frac{bobot\ ekstrak}{bobot\ simplisia}$ = x 100%

= $\frac{276{,}18\ g}{600\ g}$ = x 100% = 46,02%

Fraksi n - Heksana : 1,1388 g

= $\frac{1{,}1388\ g}{100\ g}$ x 100%

= 1,1388 %

Fraksi Etil Asetat : 1,5077 g

= $\frac{1{,}5077\ g}{100\ g}$ x 100%

= 1,5077%

Fraksi Metanol Air : 91,224 g

= $\frac{91{,}224\ g}{100\ g}$ x 100%

= 91,224%

Lampiran 4. Karakterisasi Ekstrak

1. Penetapan kadar sari larut etanol

Bobot sari kering Cawan$_1$ = 0,0573 g

$$\text{Cawan}_1 = \frac{\text{Bobot sari kering}}{\text{bobot bahan}} \text{ x } \frac{\text{volume pelarut}}{\text{volume filtrat}} \text{ x } 100\%$$

$$= \frac{0{,}0573 \text{ g}}{2{,}5 \text{ g}} \text{ x } \frac{50 \text{ mL}}{10 \text{ mL}} \text{ x } 100\%$$

$$= 11{,}46\%$$

Bobot sari kering Cawan$_2$ = 0,0615 g

$$\text{Cawan}_2 = \frac{\text{Bobot sari kering}}{\text{bobot bahan}} \text{ x } \frac{\text{volume pelarut}}{\text{volume filtrat}} \text{ x } 100\%$$

$$= \frac{0{,}0615 \text{ g}}{2{,}5 \text{ g}} \text{ x } \frac{50 \text{ mL}}{10 \text{ mL}} \text{ x } 100\%$$

$$= 12{,}30\%$$

Nilai rata – rata kadar sari larut etanol sebesar 11,88%

2. Kadar sari Larut air

Bobot sari kering Cawan$_1$ = 0,2968 g

$$\text{Cawan}_1 = \frac{\text{Bobot sari kering}}{\text{bobot bahan}} \text{ x } \frac{\text{volume pelarut}}{\text{volume filtrat}} \text{ x } 100\%$$

$$= \frac{0{,}2968 \text{ g}}{2{,}5 \text{ g}} \text{ x } \frac{50 \text{ mL}}{10 \text{ mL}} \text{ x } 100\%$$

$$= 59{,}36\%$$

Bobot sari kering Cawan$_2$ = 0,3055 g

$$\text{Cawan}_2 = \frac{\text{Bobot sari kering}}{\text{bobot bahan}} \text{ x } \frac{\text{volume pelarut}}{\text{volume filtrat}} \text{ x } 100\%$$

$$= \frac{0{,}3055 \text{ g}}{2{,}5 \text{ g}} \text{ x } \frac{50 \text{ mL}}{10 \text{ mL}} \text{ x } 100\%$$

$$= 61{,}11\%$$

Nilai rata – rata kadar sari larut Aair sebesar 60,235%

(Lanjutan)

3. Kadar abu total

Krus I

Bobot ekstrak = 2,0094 (W_1 - W_0)
Bobot krus = 25,026 (W_0)
Bobot abu +krus = 25,0976 (W_2)

$$= \frac{W_2 - W_0}{W_1 - W_0} \times 100\%$$

$$= \frac{25,0976 - 25,026}{2,0094} \times 100\%$$

= 3,563 %

Krus II

Bobot ekstrak = 2,0094 (W_1 - W_0)
Bobot krus = 50,2781 (W_0)
Bobot abu +krus = 50,3464 (W_2)

$$= \frac{W_2 - W_0}{W_1 - W_0} \times 100\%$$

$$= \frac{50,3464 - 50,2781}{2,0094} \times 100\%$$

= 3,234 %

Nilai rata – rata = 3,398%

4. Bobot Jenis

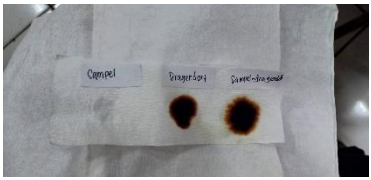
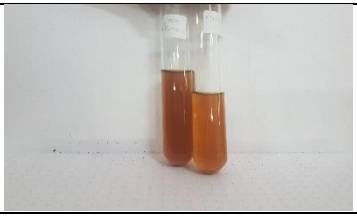
W pikno kosong = 14,3380 g (W_0)
W pikno + air = 23,8226 g (W_1)
W pikno + ekstrak$_1$ = 23,5946 g (W_2)
W pikno + ekstrak$_2$ = 23,6210 g (W_2)

$$BJ_1 = \frac{W_2 - W_0}{W_1 - W_0} = \frac{23,5946 - 14,3380}{23,8226 - 14,3380} = 0,9759$$

$$BJ_2 = \frac{W_2 - W_0}{W_1 - W_0} = \frac{23,6210 - 14,3380}{23,8226 - 14,3380} = 0,9787$$

Nilai rata – rata BJ = 0,9773

Lampiran 5. Penapisan Fitokimia

<table>
<tr><td colspan="2">Alkaloid</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Flavonoid</td><td>Saponin</td></tr>
<tr><td>  </td><td>  </td></tr>
<tr><td>Tanin</td><td></td></tr>
<tr><td>$FeCl_3$
  </td><td>Gelatin
  </td></tr>
<tr><td>Kuinon</td><td>Steroid</td></tr>
<tr><td>  </td><td>  </td></tr>
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Lampiran 6. Analisis KGSM

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File       :C:\msdchem\1\data\Tahun 2019\Fraksi Heksan - Bawang Hitam -
...         Prita\FRAKSI HEKSAN-BAWANG HITAM.D
Operator   : Yusuf
Instrument :    GCMS POLTEKKES BANDUNG
Acquired   : 24 May 2019  10:35     using AcqMethod GENERAL MINYAK ATSIRI.M
Sample Name:
Misc Info  :                                        ERR
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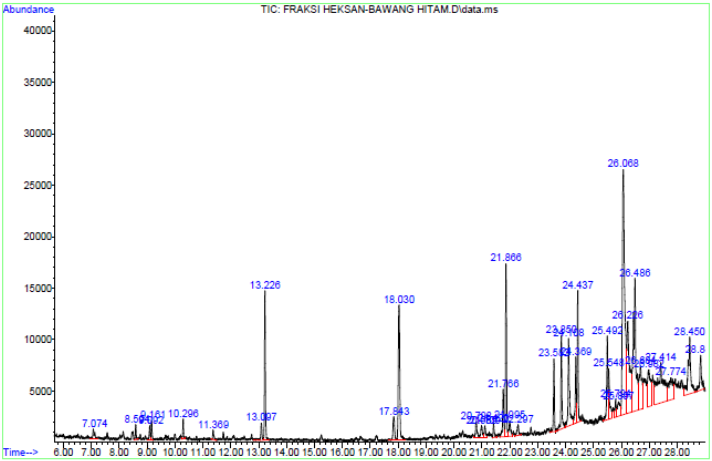


Waktu Retensi	Nama Seyawa	Bobot Molekul	Rumus Molekul	%Area
13.223	Tetradecan	198	$C_{14}H_{30}$	4,07
18.032	Hexadecan	226	$C_{16}H_{34}$	5,66
21,867	Nonadecan	268	$C_{19}H_{40}$	4,84
23,580	Asam heksadekanoat, metil ester	270	$C_{17}H_{34}O_2$	1,94
24,111	Asam heksadekanoat	256	$C_{16}H_{32}O_2$	3,02
25,492	9-12 asam oktadekadionat	294	$C_{19}H_{34}O_2$	2,53
26,068	9 - Asam octadekanoat	282	$C_{18}H_{34}O_2$	16,99

Lampiran 7. Perhitungan Kultur Sel

Jumlah sel = $\frac{101}{4}$ x 2 x 10^4
= 50,5 x 10^4 sel/ml

2 plate = 186 well x 2 x 10^4/50,5 x 10^4
= 7360 µL suspensi sel

Sel + MK = 186 x 200 µL
= 37200 ~ 38000 µL

MK = 38000 µL – 7360 µL
= 30640 µL

Lampiran 8. Perhitungan Larutan Induk dan Seri Konsentrasi

1. Larutan Induk 10.000 bpj

bpj = $\frac{\mu g}{V\ (ml)}$
10000 = $\frac{\mu g}{1\ ml}$
µg = 10.000 µg ~ 10 mg

2. Seri Konsentrasi

<u>400 bpj</u>
$V_1.N_1 = V_2.N_2$
V_1.10000 bpj = 0,9 mL. 400 bpj
V_1 = 0,036 mL ~ 36 µL
MK = 200 µL – 36 µL
= 164 µL

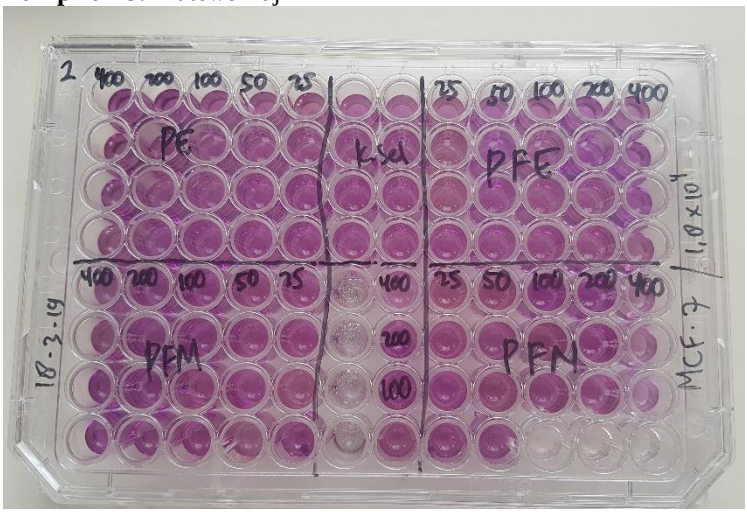
<u>50 bpj</u>
$V_1.N_1 = V_2.N_2$
V_1.10000 bpj = 0,9 mL. 50 bpj
V_1 =0,0045 mL ~ 4,5 µL
MK = 200 µL – 4,5 µL
= 195,5 µL

<u>200 bpj</u>
$V_1.N_1 = V_2.N_2$
V_1.10000 bpj = 0,9 mL. 200 bpj
V_1 = 0,018 mL ~ 18 µL
MK = 200 µL – 36 µL
= 182 µL

<u>25 bpj</u>
$V_1.N_1 = V_2.N_2$
V_1.10000 bpj = 0,9 mL. 25 bpj
V_1 = 0,00225 mL ~ 2,25 µL
MK = 200 µL – 2,25 µL
= 197,75 µL

<u>100 bpj</u>
$V_1.N_1 = V_2.N_2$
V_1.10000 bpj = 9 mL. 100 bpj
V_1 =0,009 mL ~ 9 µL
MK = 200 µL – 9 µL
= 191 µL

Lampiran 9. *Platewell* uji



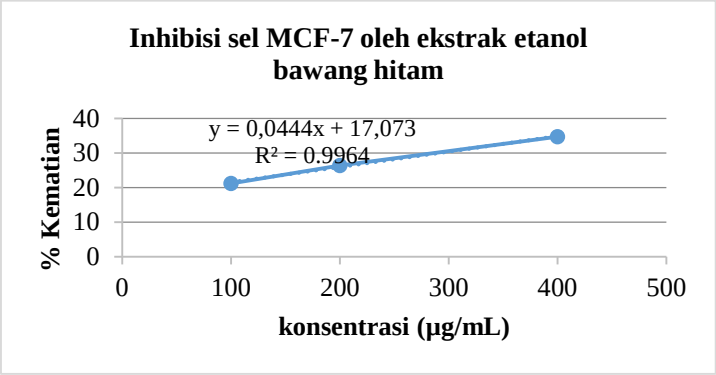
Lampiran 10. Perhitungan IC_{50}

Persen inhibisi =

$$\frac{(\text{absorbansi kontrol sel - absorbansi kontrol media}) - (\text{absorbansi perlakuan - absorbansi kontrol media})}{(\text{absorbansi kontrol sel - absorbansi kontrol media})} \times 100\ \%$$

1. Ekstrak Etanol 70%

Konsentrasi (µg/mL)	A	A rata	A kontrol sel	Amedia	%viabilitas	%kematian
400	0,859 0,741 0,715	0,772	1,127	0,102	65,333	34,667
200	0,884 0,78 0,905	0,856	1,127	0,102	73,593	26,407
100	0,89 0,923 0,916	0,910	1,127	0,102	78,797	21,203



Persamaan regresi :

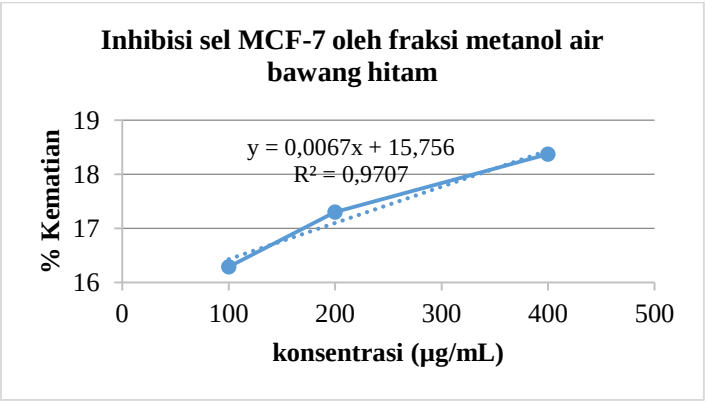
y = 0,0444x + 17,073

50 = 0,0444x + 17,073

X = 741,6 µg/mL

2. Fraksi Metanol Air

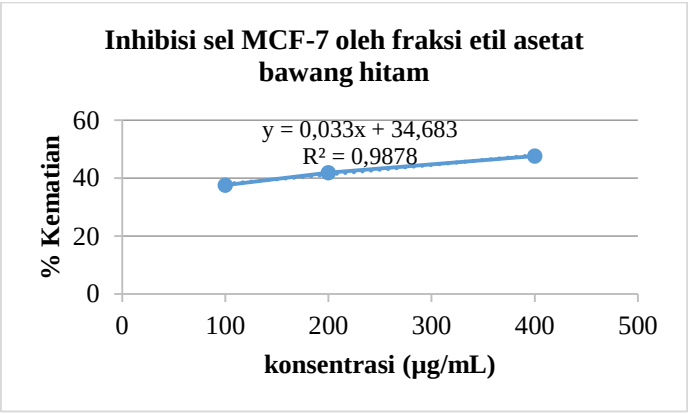
Konsentrasi (µg/mL)	A	A rata	A kontrol sel	Amedia	%viabilitas	%kematian
400	0,991 0,833 0,992	0,939	1,127	0,102	81,626	18,374
200	0,981 0,997 0,871	0,950	1,127	0,102	82,699	17,301
100	0,971 1,015 0,894	0,960	1,127	0,102	83,707	16,293



Persamaan regresi :
y = 0,0067x + 15,756
50 = 0,0067x + 15,756
X = 5111,05 µg/mL

3. Fraksi Etil Asetat

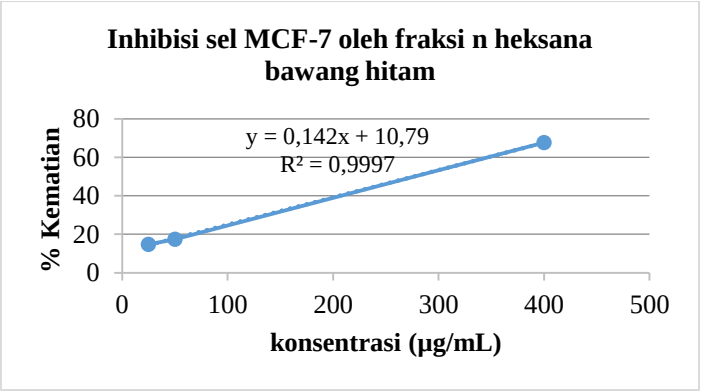
Konsentrasi (µg/mL)	A	A rata	A kontrol sel	Amedia	%viabilitas	%kematian
400	0,648 0,735 0,532	0,638	1,127	0,102	52,325	47,675
200	0,778 0,662 0,652	0,697	1,127	0,102	58,081	41,919
100	0,732 0,746 0,748	0,742	1,127	0,102	62,439	37,561



Persamaan regresi :
y = 0,033x + 34,683
50 = 0,033x + 34,683
X = 464,15 µg/mL

4. Fraksi n heksana

Konsentrasi (µg/mL)	A	A rata	A kontrol sel	Amedia	%viabilitas	%kematian
400	0,44 0,449 0,413	0,434	1,127	0,102	32,390	67,610
50	0,872 1,083 0,891	0,949	1,127	0,102	82,602	17,398
25	0,971 0,99 0,965	0,975	1,127	0,102	85,203	14,797



Persamaan regresi :
y = 0,142x + 10,79
50 = 0,142x + 10,79
X = 276,13 µg/mL