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LAMPIRAN

Lampiran 1. Pembuatan Ekstrak Daun Sambiloto

Gambar 1. Preparasi Daun Sambiloto

Gambar 2. Ekstraksi Simplisia Daun Sambiloto dengan Metode Maserasi

Gambar 3. Rotary Evaporator digunakan untuk memisahkan ekstrak dari pelarut

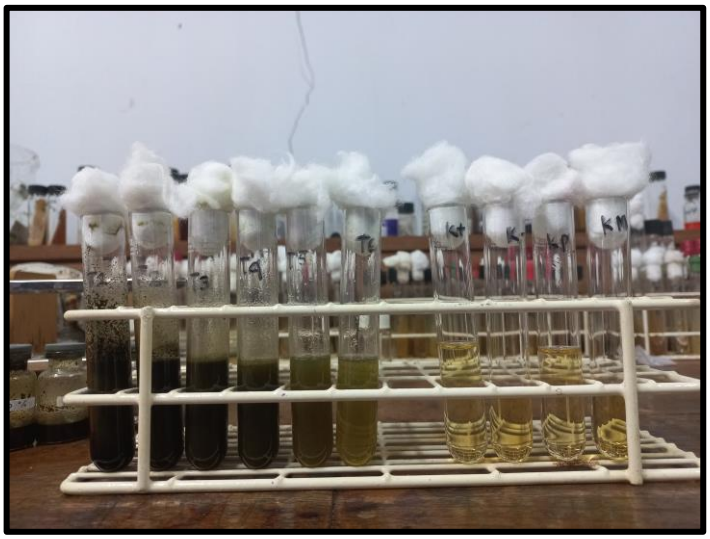
Lampiran 2. Pembuatan Suspensi Bakteri *Streptococcus pneumoniae*

Gambar 4. Bakteri Uji *Streptococcus pneumoniae*

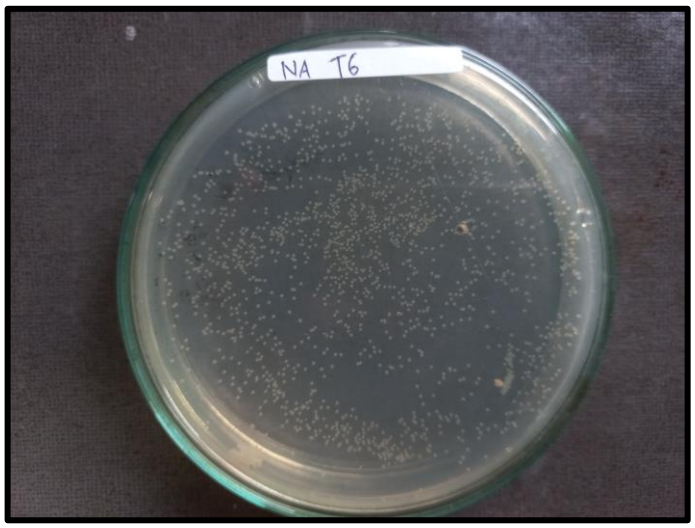
Gambar 5. Suspensi Bakteri Uji

Lampiran 3. Uji Dilusi Cair

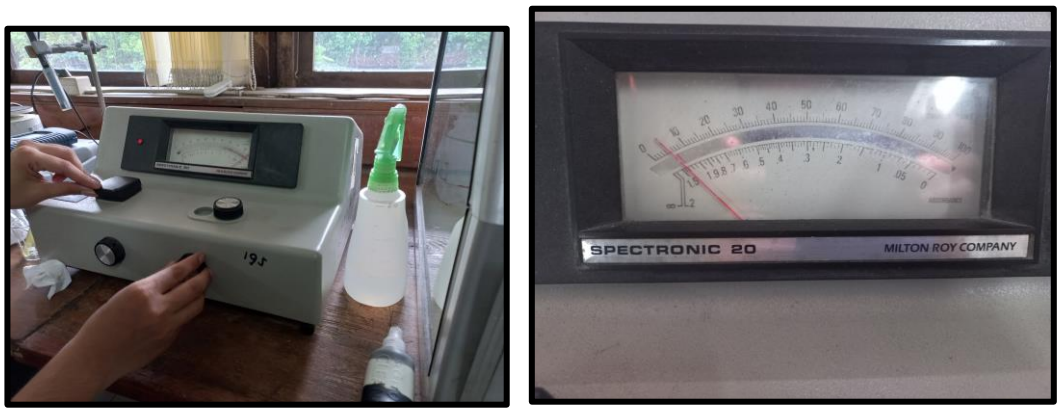
Gambar 6. Preparasi ekstrak konsentrasi 20%, 10%, 5%, 2.5%, 1.25%, 0.625%



Gambar 7. Uji Dilusi Cair

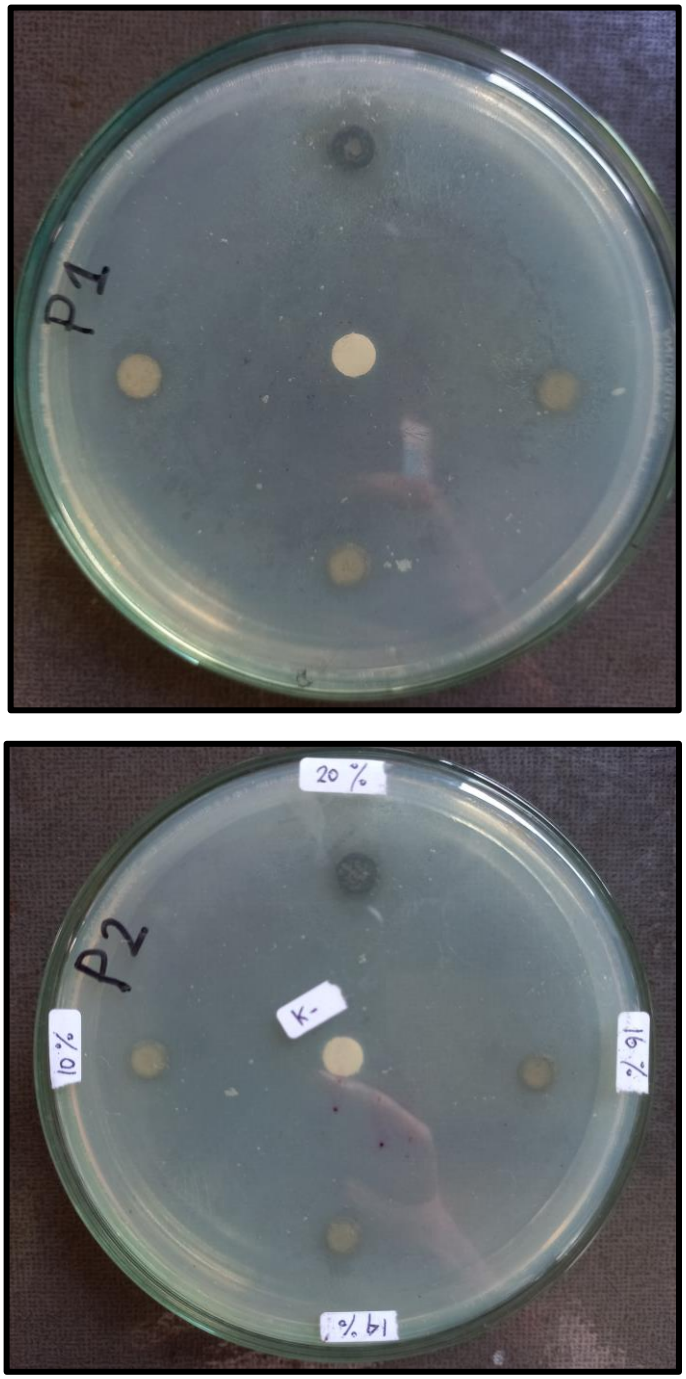


Gambar 8. Penanaman (Plating) hasil uji dilusi cair

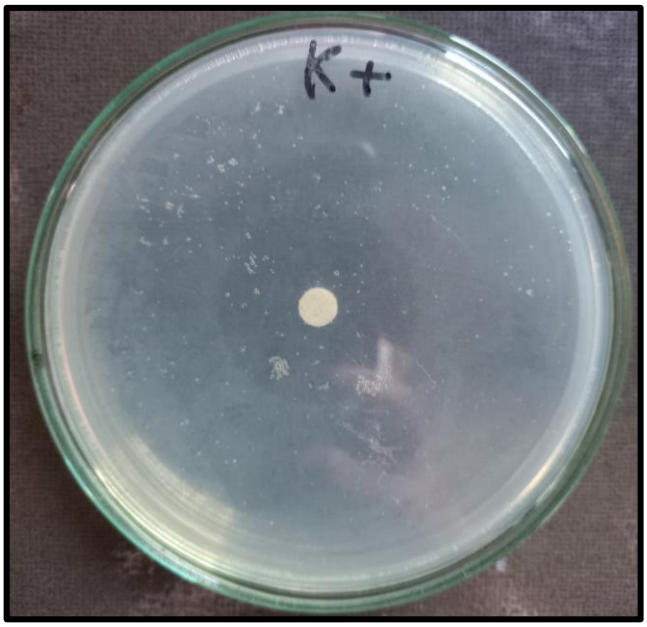


Gambar 9. Pengukuran kekeruhan hasil uji dilusi cair dengan Spektrofotometer UV-Vis

Lampiran 4. Uji Aktivitas Bakteri



Gambar 10. Uji Aktivitas Antibakteri

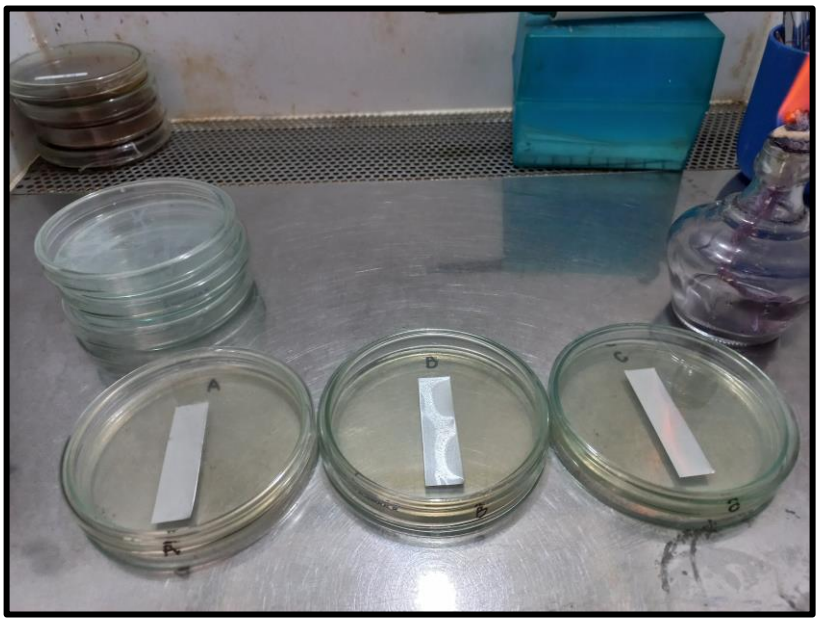


Gambar 11. Kontrol positif (Levofloxacin)

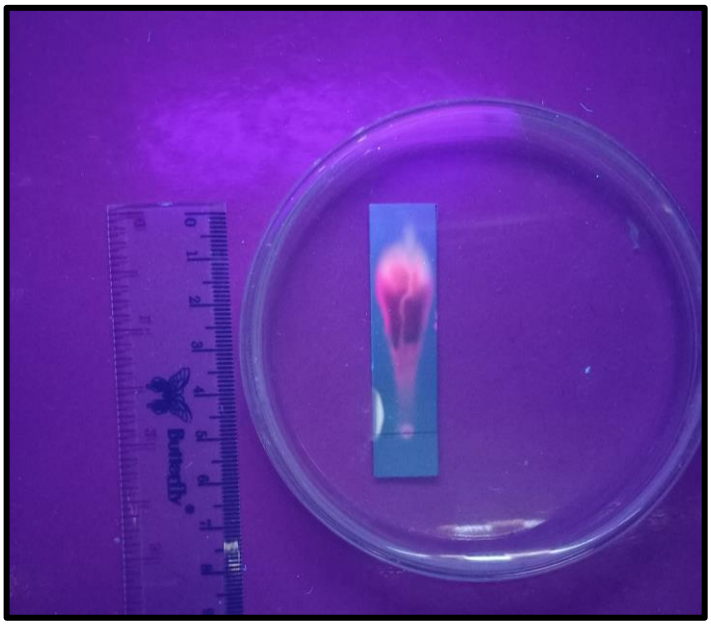
Gambar 12. Pengukuran diameter zona hambat

Lampiran 5. Analisis KLT Bioautografi

Gambar 13. Proses Elusi dalam Chamber dengan fase eluen campuran

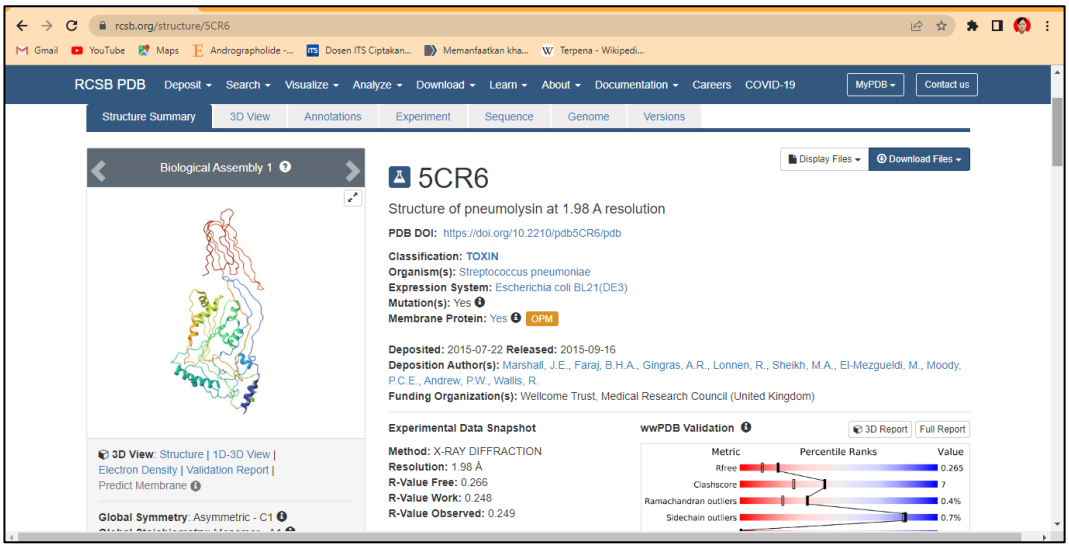


Gambar 14. Penempelan plat KLT hasil elusi pada media MHA

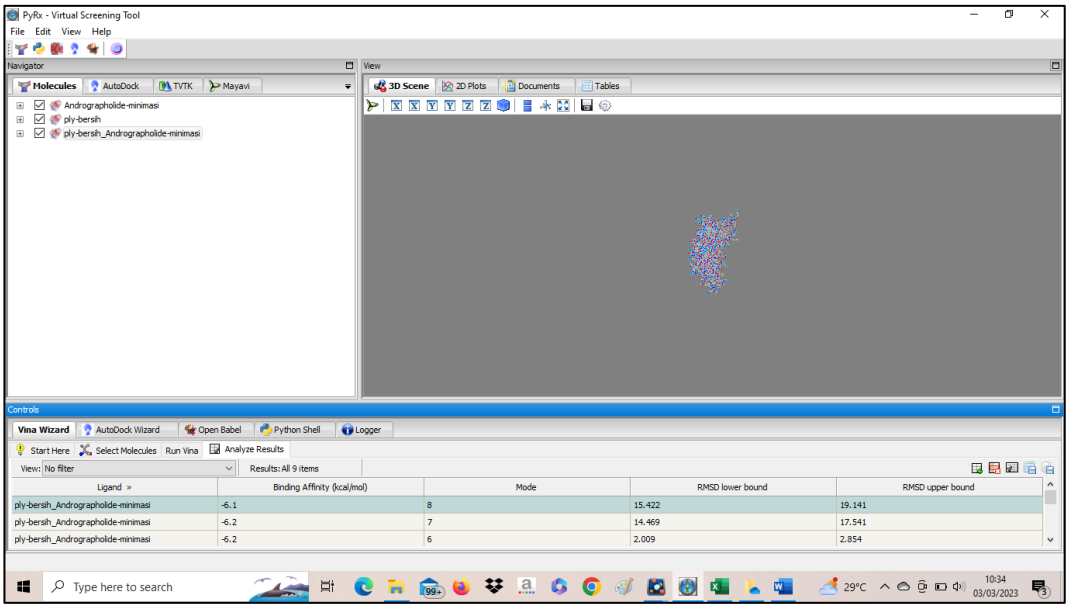


Gambar 15. Penampakan noda pada sinar UV 366 nm

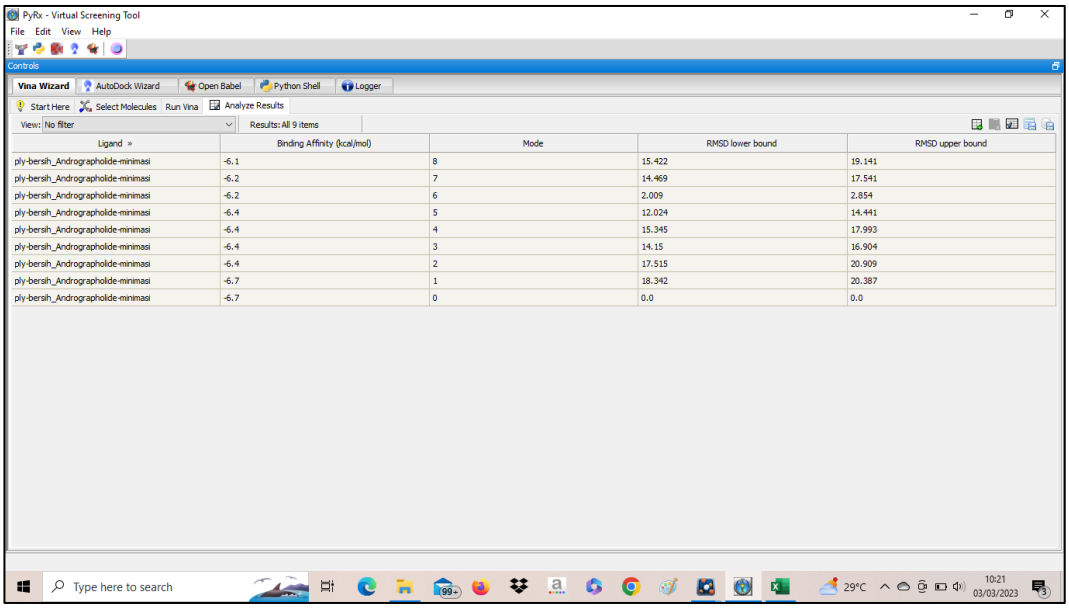
Lampiran 6. Analisis *Molecular Docking*



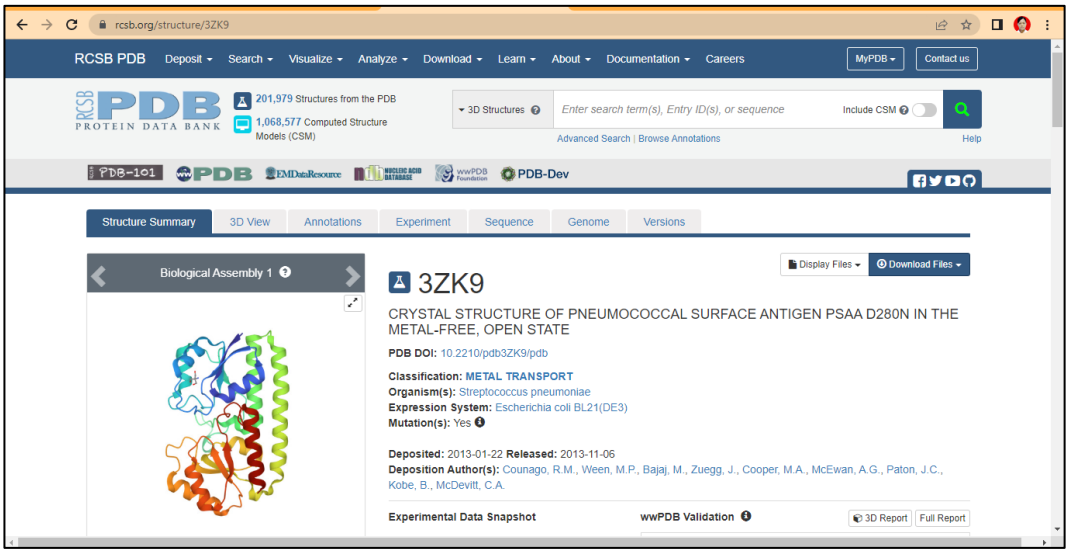
Gambar 16. Struktur Pneumolysin



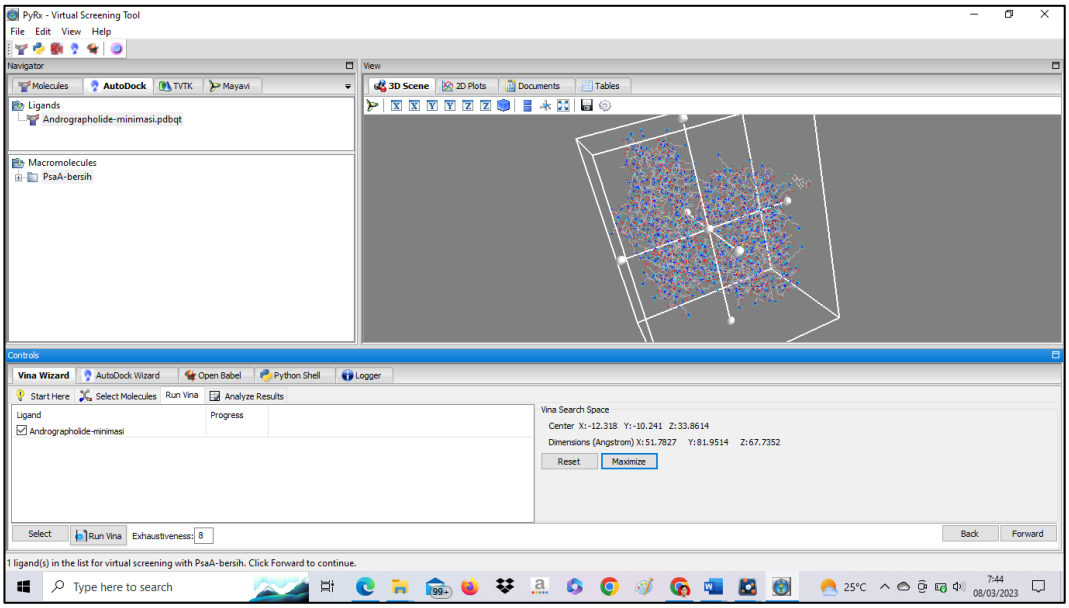
Gambar 17. *Molecular Docking* reseptor Pneumolysin dan senyawa Andrographolide dengan Software PyRx



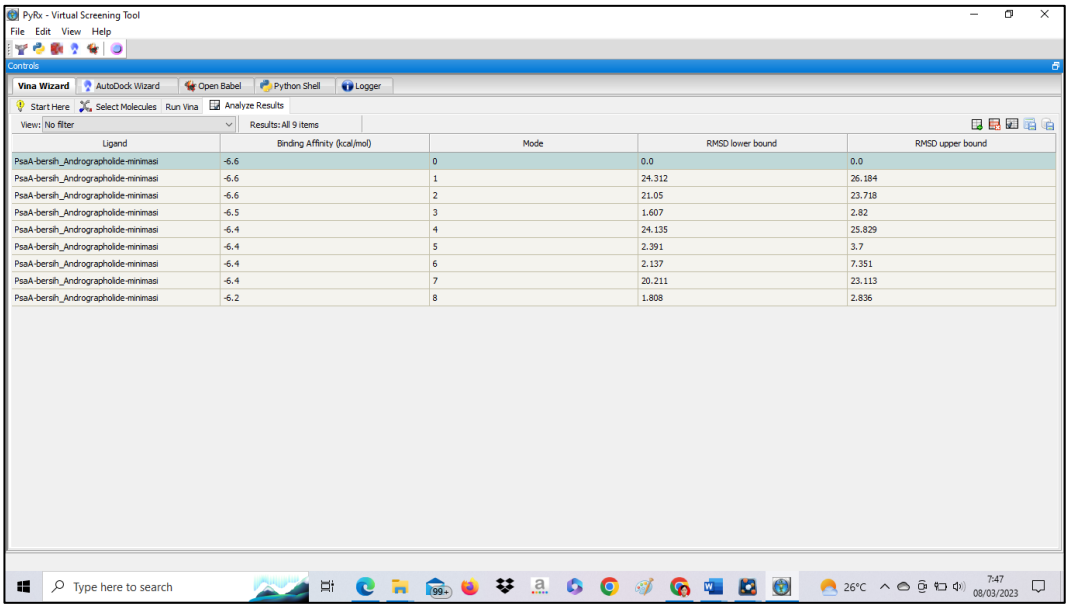
Gambar 18. Nilai *Binding Affinity* reseptor Pneumolysin dengan senyawa Andrographolide



Gambar 19. Struktur PsaA



Gambar 20. *Molecular Docking* reseptor PsaA dan senyawa Andrographolide dengan Software PyRx



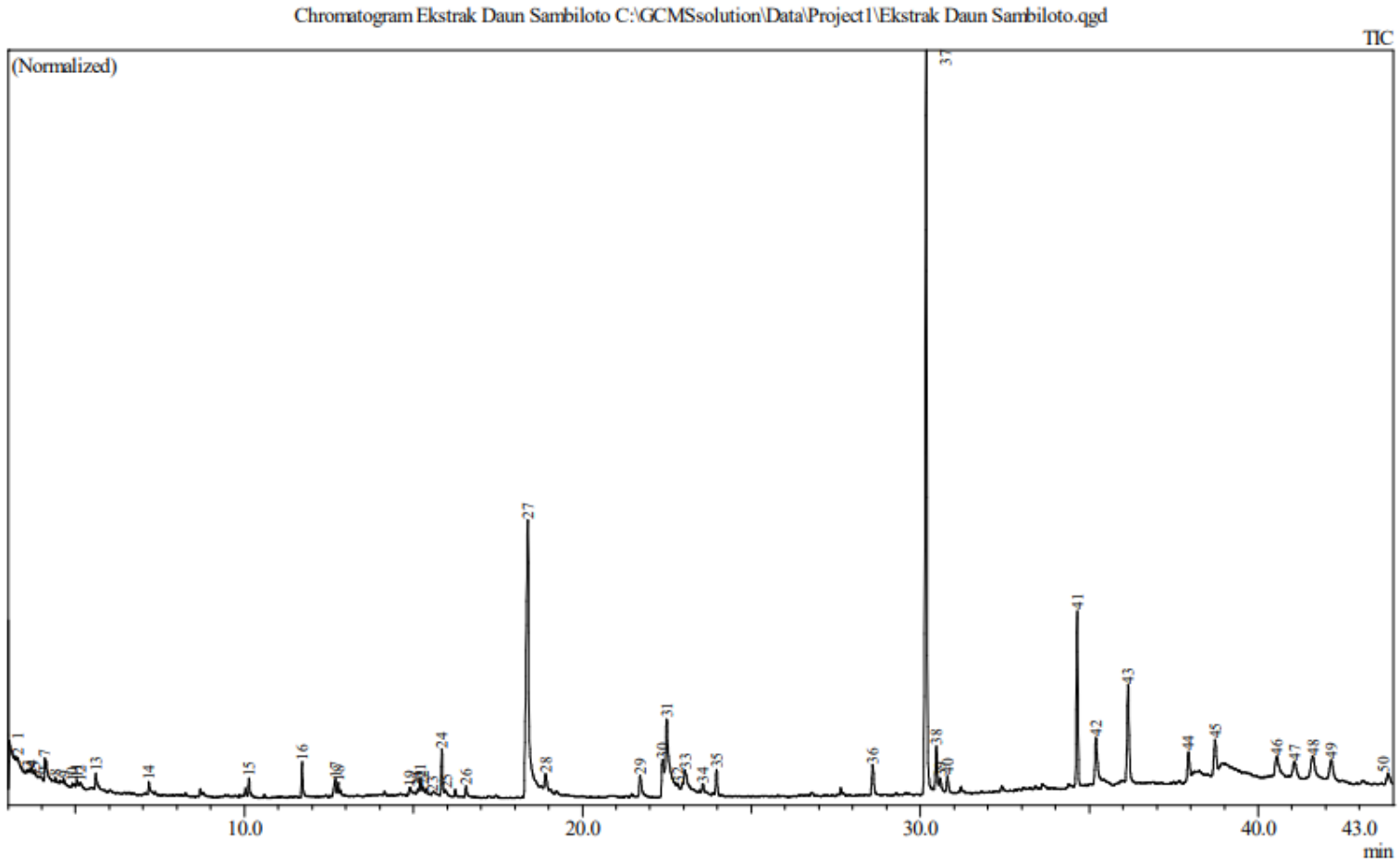
Gambar 21. Nilai *Binding Affinity* reseptor PsaA dengan senyawa Andrographolide

Lampiran 7. Hasil Pengukuran Zona Hambat Uji Aktivitas Antibakteri

Perlakuan (*Treatment*) / Konsentrasi	**Zona Hambat (mm) terhadap bakteri *Streptococcus pneumoniae***			
	Pengulangan 1	**Pengulangan 2**	**Pengulangan 3**	**Pengulangan 4**
20%	6,25	4,3	6,25	5,9
16%	0,85	1,45	3,15	4,1
14%	0,35	2,1	2,65	2,65
10%	0,55	0,9	1,6	2,15
Kontrol positif (Levofloxacin)	26			
Kontrol negatif (etil asetat)	-	-	-	-

Keterangan: Tidak membentuk zona hambat (-)

Lampiran 8. Analisis GC-MS



Peak Report TIC

Peak#	R.Time	Area	Area%	A/H	Name
1	3.045	4375584	3.74	8.74	1-Deoxy-d-mannitol
2	3.292	3931546	3.36	12.09	Cyclohexane, (2-methylpropyl)- (CAS)
3	3.575	2017583	1.72	9.88	NONANE, 4-METHYL-
4	3.700	1352381	1.16	6.12	Heptane, 5-ethyl-2-methyl-
5	3.792	1287927	1.10	6.69	Mesitylene
6	3.958	1129738	0.97	8.10	CYCLOHEXANE, 1-METHYL-3-PROPYL-
7	4.095	2433495	2.08	7.57	Decane
8	4.408	905227	0.77	7.36	Nonane, 2,6-dimethyl-
9	4.652	1280512	1.09	12.03	Decane, 4-cyclohexyl-
10	4.917	585886	0.50	9.12	DECANE, 5-METHYL-
11	5.038	362719	0.31	3.63	Butyric acid, 2-phenyl-, dec-2-yl ester
12	5.136	421868	0.36	5.59	Decane, 3-methyl-
13	5.597	599252	0.51	3.63	Undecane
14	7.168	597112	0.51	4.47	DODECANE
15	10.132	597700	0.51	3.15	HEPTADECANE
16	11.702	1015421	0.87	2.79	2,4-DITERT-BUTYLPHENOL
17	12.690	802173	0.69	4.42	1-Hexadecene
18	12.777	357060	0.31	2.52	Hexadecane
19	14.893	444643	0.38	5.18	(2-PHENYLCYCLOBUTYL)BENZENE
20	15.125	432218	0.37	5.85	2-Undecene, 9-methyl-, (E)-
21	15.205	610728	0.52	3.55	1-Docosene
22	15.290	329963	0.28	3.37	Octadecane
23	15.575	484156	0.41	11.64	(S,E)-4-Hydroxy-3,5,5-trimethyl-4-(3-oxobut-1-en-1-yl)cyclohex-2-enone
24	15.841	1389604	1.19	2.85	Neophytadiene
25	15.958	321162	0.27	4.86	2-Pentadecanone, 6,10,14-trimethyl-
26	16.557	359483	0.31	3.19	3,7,11,15-Tetramethyl-2-hexadecen-1-ol

Peak#	R.Time	Area	Area%	A/H	Name
27	18.386	20302872	17.35	7.05	n-Hexadecanoic acid
28	18.910	768366	0.66	4.61	Docosanoic acid, ethyl ester
29	21.711	1080276	0.92	4.83	Phytol
30	22.375	1848192	1.58	4.82	Linoelaidic acid
31	22.497	6278836	5.37	7.94	cis-Vaccenic acid
32	22.825	532263	0.45	5.58	9,12-Octadecadienoic acid (Z,Z)-
33	23.033	1759397	1.50	8.18	9-OCTADECENOIC ACID (Z)-
34	23.568	323842	0.28	3.50	Trifluoroacetoxy hexadecane
35	23.973	901695	0.77	3.34	2-Hexadecen-1-ol, 3,7,11,15-tetramethyl-, acetate, [R-[R*,R*-(E)]]-
36	28.593	1299269	1.11	4.10	Cyclohexane, 1,3,5-triphenyl-
37	30.176	27661821	23.64	3.58	Bis(2-ethylhexyl) phthalate
38	30.478	2070303	1.77	4.23	(2,3-Diphenylcyclopropyl)methyl phenyl sulfoxide, trans-
39	30.588	805714	0.69	5.04	(2,3-Diphenylcyclopropyl)methyl phenyl sulfoxide, trans-
40	30.808	692282	0.59	3.94	(2,3-Diphenylcyclopropyl)methyl phenyl sulfoxide, trans-
41	34.644	5662367	4.84	3.12	Squalene
42	35.199	2369480	2.03	5.02	cis-Z-.alpha.-Bisabolene epoxide
43	36.152	4307213	3.68	4.26	1-METHYL-4-METHYLENE-2-(2-METHYL-1-PROPENYL)-1-VINYLCYCLOHEP
44	37.940	1183177	1.01	4.32	Doconexent, TBDMS derivative
45	38.726	1648161	1.41	4.85	Doconexent, TBDMS derivative
46	40.553	1765656	1.51	8.69	3-Buten-2-one, 4-(3-hydroxy-6,6-dimethyl-2-methylenecyclohexyl)-
47	41.080	1242018	1.06	7.56	Aromadendrene oxide-(1)
48	41.614	1813909	1.55	8.06	Andrographolide
49	42.167	1545907	1.32	7.58	Andrographolide
50	43.846	703454	0.60	6.71	Stigmasterol
		116991611	100.00		

Lampiran 9. Hasil Skrining Fitokimia Ekstrak Daun Sambiloto

LABORATORIUM FARMAKOGNOSI-FITOKIMIA
FAKULTAS FARMASI
UNIVERSITAS HASANUDDIN
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Telp. 0411-588566, 586200, 580216, Ext.1093, Fax. (0411)585188,
MAKASSAR 90245

LEMBAR HASIL

Sampel : **Ekstrak Daun Sambiloto**

Jenis Pengujian : **Uji Kualitatif Fitokimia (metode KLT)**

No	Jenis Pengujian	Reagen	Hasil Uji	Interpretasi hasil
1	Flavonoid	Sitroborat	+	Perubahan warna menjadi kuning kehijauan
2	Tanin	FeCl3	+	Perubahan warna menjadi Biru gelap kehitaman
3	Alkaloid	Dragendorff	+	Perubahan warna menjadi jingga kemerahan
4	Steroid	Liebermann-Burchad	+	Perubahan warna menjadi Biru kehitaman

Makassar, 30 Desember 2022
Laboran/Analis Laboratorium

Abdillah Mahmud, A.Md.AK

Lampiran 10. Hasil Analisa Data

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Zona Hambat	16	100.0%	0	0.0%	16	100.0%

Descriptives

			Statistic	Std. Error
Zona Hambat	Mean		2.8250	.50069
	95% Confidence Interval for Mean	Lower Bound	1.7578	
		Upper Bound	3.8922	
	5% Trimmed Mean		2.7722	
	Median		2.4000	
	Variance		4.011	
	Std. Deviation		2.00275	
	Minimum		.35	
	Maximum		6.25	
	Range		5.90	
	Interquartile Range		3.21	
	Skewness		.643	.564
	Kurtosis		-.788	1.091

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Zona Hambat	.160	16	.200*	.903	16	.091

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Test of Homogeneity of Variances

		Levene Statistic	df1	df2	Sig.
Zona Hambat	Based on Mean	1.556	3	12	.251
	Based on Median	.934	3	12	.454
	Based on Median and with adjusted df	.934	3	8.262	.467

Based on trimmed mean	1.444	3	12	.279

ANOVA

Zona Hambat

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	45.709	3	15.236	12.647	.001
Within Groups	14.456	12	1.205		
Total	60.165	15			

Multiple Comparisons

Dependent Variable: Zona Hambat

Tukey HSD

		Mean Difference			95% Confidence Interval	
(I) Konsentrasi	(J) Konsentrasi	(I-J)	Std. Error	Sig.	Lower Bound	Upper Bound
C 20%	C 16%	3.28750*	.77611	.005	.9833	5.5917
	C 14 %	3.73750*	.77611	.002	1.4333	6.0417
	C 10%	4.37500*	.77611	.001	2.0708	6.6792
C 16%	C 20%	-3.28750*	.77611	.005	-5.5917	-.9833
	C 14 %	.45000	.77611	.936	-1.8542	2.7542
	C 10%	1.08750	.77611	.522	-1.2167	3.3917
C 14 %	C 20%	-3.73750*	.77611	.002	-6.0417	-1.4333
	C 16%	-.45000	.77611	.936	-2.7542	1.8542
	C 10%	.63750	.77611	.843	-1.6667	2.9417
C 10%	C 20%	-4.37500*	.77611	.001	-6.6792	-2.0708
	C 16%	-1.08750	.77611	.522	-3.3917	1.2167
	C 14 %	-.63750	.77611	.843	-2.9417	1.6667

*. The mean difference is significant at the 0.05 level.