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Lampiran 1

Hasil Uji Antibakteri

konsentrasi	Diameter Hambatan (mm)			
	Pseudomonas ulang I	Pseudomonas ulang II	MRSA ulang I	MRSA Ulang II
6,25mg/mL	11,2	9,8	4,4	4,3
12,5mg/mL	11,6	8,9	3,4	7,6
25mg/mL	13,3	9,2	5,4	8,5
50mg/mL	14,6	11,6	7,5	8,3
100mg/mL	15,1	12,7	8,7	8,3
+	33,3	31,6	25,5	25,3
-	0	0	0	0

Uji Statistik Antibakteri

A. Uji Normalitas

Tujuan untuk mengetahui nilai normalitas adalah distribusi data uji antibakteri

Hipotesis :

Ho = Data antibakteri berdistribusi normal

Ha = Data antibakteri tidak berdistribusi normal

Pengambilan keputusan :

- Jika nilai signifikansi ≥0,05 Ho diterima
- Jika nilai signifikansi ≤0,05 Ho ditolak

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pseudomonas	.340	12	.000	.689	12	.001
MRSA	.390	12	.000	.685	12	.001

a. Lilliefors Significance Correction

- karena data tidak homogen maka di lanjutkan dengan uji non parametrik untuk mendapatkan data berdistribusi normal

Uji Non-Parametrik

Pseudomonas aeruginosa

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		12
Normal Parameters[a,b]	Mean	0E-7
	Std. Deviation	5.43096421
Most Extreme Differences	Absolute	.119
	Positive	.119
	Negative	-.086
Kolmogorov-Smirnov Z		.411
Asymp. Sig. (2-tailed)		.996

a. Test distribution is Normal.

b. Calculated from data.

Methicilin Resisten Staphylococcus aureus

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		12
Normal Parameters[a,b]	Mean	0E-7
	Std. Deviation	4.71760817
Most Extreme Differences	Absolute	.138
	Positive	.135
	Negative	-.138
Kolmogorov-Smirnov Z		.476
Asymp. Sig. (2-tailed)		.977

a. Test distribution is Normal.

b. Calculated from data.

Keputusan : sesuai dengan data uji non parametrik maka data berdistribusi normal

Uji menggunakan Monte Carlo

One-Sample Kolmogorov-Smirnov Test

			Unstandardized Residual	Unstandardized Residual
N			12	12
Normal Parameters[a,b]	Mean		0E-7	0E-7
	Std. Deviation		5.43096421	4.71760817
Most Extreme Differences	Absolute		.119	.138
	Positive		.119	.135
	Negative		-.086	-.138
Kolmogorov-Smirnov Z			.411	.476
Asymp. Sig. (2-tailed)			.996	.977
Monte Carlo Sig. (2-tailed)	Sig.		.987[c]	.953[c]
	99% Confidence Interval	Lower Bound	.984	.947
		Upper Bound	.990	.958

a. Test distribution is Normal.

b. Calculated from data.

c. Based on 10000 sampled tables with starting seed 2000000.

B. Uji Homogenitas

Tujuan untuk mengetahui homogenitas data antibakteri
Hipotesis :
Ho = Data Uji antibakteri homogen
Ha = Data uji antibakteri tidak homogen
Pengambilan keputusan :

- Jika nilai signifikansi ≥0,05 Ho diterima
- Jika nilai signifikansi ≤0,05 Ho ditolak

Uji *one way ANOVA*

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Pseudomonas	Konsentrasi 1	2	10.500	.9899	.7000	1.606	19.394	9.8	11.2
	Konsentrasi 2	2	10.250	1.9092	1.3500	-6.903	27.403	8.9	11.6
	Konsentrasi 3	2	11.250	2.8991	2.0500	-14.798	37.298	9.2	13.3
	Konsentrasi 4	2	13.100	2.1213	1.5000	-5.959	32.159	11.6	14.6
	Konsentrasi 5	2	13.900	1.6971	1.2000	-1.347	29.147	12.7	15.1
	Kontrol Positif	2	32.450	1.2021	.8500	21.650	43.250	31.6	33.3
	Total	12	15.242	8.2767	2.3893	9.983	20.500	8.9	33.3
MRSA	Konsentrasi 1	2	4.350	.0707	.0500	3.715	4.985	4.3	4.4
	Konsentrasi 2	2	5.500	2.9698	2.1000	-21.183	32.183	3.4	7.6
	Konsentrasi 3	2	6.950	2.1920	1.5500	-12.745	26.645	5.4	8.5
	Konsentrasi 4	2	7.900	.5657	.4000	2.818	12.982	7.5	8.3
	Konsentrasi 5	2	8.500	.2828	.2000	5.959	11.041	8.3	8.7
	Kontrol Positif	2	25.400	.1414	.1000	24.129	26.671	25.3	25.5
	Total	12	9.767	7.5317	2.1742	4.981	14.552	3.4	25.5

Test of Homogeneity of Variances

	Levene Statistic	df1	df2	Sig.
Pseudomonas	86033904065629088.000	5	6	.000
MRSA	4045432038489613.000	5	6	.000

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Pseudomonas	Between Groups	731.694	5	146.339	40.175	.000
	Within Groups	21.855	6	3.642		
	Total	753.549	11			
MRSA	Between Groups	609.937	5	121.987	52.094	.000
	Within Groups	14.050	6	2.342		
	Total	623.987	11			

Keputusan : data uji antibakteri

memiliki p value ≥0,05 sehingga Ho tidak diterima (data tidak homogen). Karena data tidak homogen maka dilanjutkan dengan uji pos hock menggunakan *one way-anova*

Pseudomonas

Tukey HSD

Konsentrasi	N	Subset for alpha = 0.05	
		1	2
Konsentrasi 2	2	10.250	
Konsentrasi 1	2	10.500	
Konsentrasi 3	2	11.250	
Konsentrasi 4	2	13.100	
Konsentrasi 5	2	13.900	
Kontrol Positif	2		32.450
Sig.		.473	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2.000.

MRSA

Tukey HSD

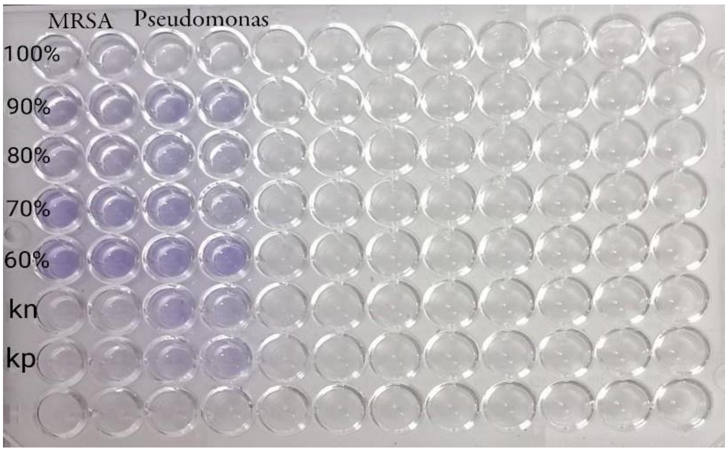
Konsentrasi	N	Subset for alpha = 0.05	
		1	2
Konsentrasi 1	2	4.350	
Konsentrasi 2	2	5.500	
Konsentrasi 3	2	6.950	
Konsentrasi 4	2	7.900	
Konsentrasi 5	2	8.500	
Kontrol Positif	2		25.400
Sig.		.202	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2.000.

Lampiran 2

Hasil Uji Penghambatan Biofilm



Username 1st bioMerieux service engineer

Measurement parameters

Reader 270
Instrument serial number: 1211006860
Measurement mode: Absorbance
Measurement wavelength: 595 nm
Read mode: Normal
Unit: OD
Date: 11/25/22, Time: 1:07:56 PM

Raw data

	1	2	3	4	5	6	7	8	9	10	11	12
A	0,391	0,401	0,493	0,494	0,064	0,057	0,057	0,067	0,077	0,08	0,069	0,07
B	0,514	0,497	0,523	0,512	0,06	0,058	0,06	0,061	0,062	0,074	0,074	0,058
C	0,781	0,787	0,783	0,807	0,07	0,057	0,056	0,058	0,064	0,066	0,074	0,07
D	0,865	0,862	0,906	0,883	0,054	0,062	0,057	0,056	0,065	0,07	0,063	0,062
E	1,073	1,077	1,068	1,078	0,06	0,052	0,06	0,059	0,059	0,073	0,067	0,067
F	2,271	2,275	2,107	2,099	0,076	0,074	0,062	0,062	0,058	0,075	0,067	0,08
G	0,153	0,151	0,174	0,192	0,079	0,083	0,078	0,071	0,062	0,07	0,065	0,066
H	0,055	0,056	0,064	0,055	0,055	0,071	0,068	0,07	0,073	0,068	0,064	0,102

Hasil Uji Data Antibiofilm *Pseudomonas aeruginosa*

Kelompok Perlakuan	Nilai *Optical Density* (OD)			Persentasi Penghambatan
	Ulangan I	Ulangan II	Rata-rata	
100mg/mL	0,391	0,401	0,396	82,58%
50mg/mL	0,514	0,497	0,5055	77,76%
25mg/mL	0,781	0,787	0,784	65,51%
12,5mg/mL	0,865	0,862	0,8635	62,01%
6,25mg/mL	1,073	1,077	1,075	52,71%
Kn	2,271	2,275	2,273	
Kp	0,153	0,151	0,152	

Hasil Uji Data Antibiofilm *Methicilin Resisten Staphylococcus aureus*

Kelompok Perlakuan	Nilai *Optical Density* (OD)			Persentasi Penghambatan
	Ulangan I	Ulangan II	Rata-rata	
100mg/mL	0,493	0,494	0,4935	78,29%
50mg/mL	0,523	0,512	0,5175	77,23%
25mg/mL	0,783	0,807	0,795	65,02%
12,5mg/mL	0,906	0,883	0,8945	60,65%
6,25mg/mL	1,068	1,078	1,073	52,79%
Kn	2,107	2,099	2,103	
Kp	0,174	0,192	0,152	

B. Uji Normalitas

Uji Statistik Penghambatan Biofilm

Tujuan untuk mengetahui nilai normalitas adalah distribusi data OD uji penghambatan pertumbuhan biofilm.

Hipotesis :

Ho = Data OD Penghambatan pertumbuhan biofilm berdistribusi normal

Ha = Data OD Penghambatan pertumbuhan biofilm tidak berdistribusi normal

Pengambilan keputusan :

- Jika nilai signifikansi ≥0,05 Ho diterima
- Jika nilai signifikansi ≤0,05 Ho ditolak

Keputusan: data OD pertumbuhan penghambatan biofilm pada semua kelompok perlakuan memiliki p value ≥0,05 sehingga data berdistribusi normal

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Uji Non Parametric				df	Sig.
Pseudomonas	.232	14	.040	.821	14	.009
Pseudomonas aeruginosa		14	.070	.842	14	.017

a. Lilliefors Significance Correction

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		14
Normal Parameters[a,b]	Mean	0E-7
	Std. Deviation	.65366081
Most Extreme Differences	Absolute	.137
	Positive	.137
	Negative	-.111
Kolmogorov-Smirnov Z		.511
Asymp. Sig. (2-tailed)		.957

a. Test distribution is Normal.

b. Calculated from data.

Methicilin Resisten Staphylococcus aureus

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		14
Normal Parameters[a,b]	Mean	0E-7
	Std. Deviation	.58696142
Most Extreme Differences	Absolute	.149
	Positive	.149
	Negative	-.111
Kolmogorov-Smirnov Z		.557
Asymp. Sig. (2-tailed)		.916

a. Test distribution is Normal.

b. Calculated from data.

B. Uji Homogenitas

Tujuan untuk mengetahui homogenitas data OD uji penghambatan pertumbuhan biofilm

Hipotesis :

Ho = Data OD Penghambatan pertumbuhan biofilm homogen

Ha = Data OD Penghambatan pertumbuhan biofilm tidak homogen

Pengambilan keputusan :

- Jika nilai signifikansi ≥0,05 Ho diterima
- Jika nilai signifikansi ≤0,05 Ho ditolak

Descriptives

		N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
						Lower Bound	Upper Bound		
Pseudomonas	Konsetrasi 1	2	1.0750	.00283	.00200	1.0496	1.1004	1.07	1.08
	Konsetrasi 2	2	.8635	.00212	.00150	.8444	.8826	.86	.87
	Konsetrasi 3	2	.7840	.00424	.00300	.7459	.8221	.78	.79
	Konsetrasi 4	2	.5055	.01202	.00850	.3975	.6135	.50	.51
	Konsetrasi 5	2	.3960	.00707	.00500	.3325	.4595	.39	.40
	Kontrol Positif	2	.1520	.00141	.00100	.1393	.1647	.15	.15
	Kontrol Negatif	2	2.2730	.00283	.00200	2.2476	2.2984	2.27	2.28
	Total	14	.8641	.66689	.17823	.4791	1.2492	.15	2.28
MRSA	Konsetrasi 1	2	1.0730	.00707	.00500	1.0095	1.1365	1.07	1.08
	Konsetrasi 2	2	.8945	.01626	.01150	.7484	1.0406	.88	.91

	Konsetrasi 3	2	.7950	.01697	.01200	.6425	.9475	.78	.81
	Konsetrasi 4	2	.5175	.00778	.00550	.4476	.5874	.51	.52
	Konsetrasi 5	2	.4935	.00071	.00050	.4871	.4999	.49	.49
	Kontrol Positif	2	.1830	.01273	.00900	.0686	.2974	.17	.19
	Kontrol Negatif	2	2.1030	.00566	.00400	2.0522	2.1538	2.10	2.11
	Total	14	.8656	.59562	.15919	.5217	1.2095	.17	2.11

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Pseudomonas	Between Groups	5.781	6	.964	28701.910	.000
	Within Groups	.000	7	.000		
	Total	5.782	13			
MRSA	Between Groups	4.611	6	.769	6273.654	.000
	Within Groups	.001	7	.000		
	Total	4.612	13			

Pseudomonas

Tukey HSD

Konsentrasi	N	Subset for alpha = 0.05						
		1	2	3	4	5	6	7
Kontrol Positif	2	.1520						
Konsetrasi 5	2		.3960					
Konsetrasi 4	2			.5055				
Konsetrasi 3	2				.7840			
Konsetrasi 2	2					.8635		
Konsetrasi 1	2						1.0750	
Kontrol Negatif	2							2.2730
Sig.		1.000	1.000	1.000	1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2.000.

MRSA

Tukey HSD

Konsentrasi	N	Subset for alpha = 0.05					
		1	2	3	4	5	6
Kontrol Positif	2	.1830					
Konsetrasi 5	2		.4935				
Konsetrasi 4	2		.5175				
Konsetrasi 3	2			.7950			
Konsetrasi 2	2				.8945		
Konsetrasi 1	2					1.0730	
Kontrol Negatif	2						2.1030
Sig.		1.000	.409	1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.

a. Uses Harmonic Mean Sample Size = 2.000.

Uji *One Way- Anova*

Tujuan : untuk mengetahui apakah terdapat perbedaan signifikan antar kelompok perlakuan uji penghambatan pertumbuhan biofilm

Hipotesis :

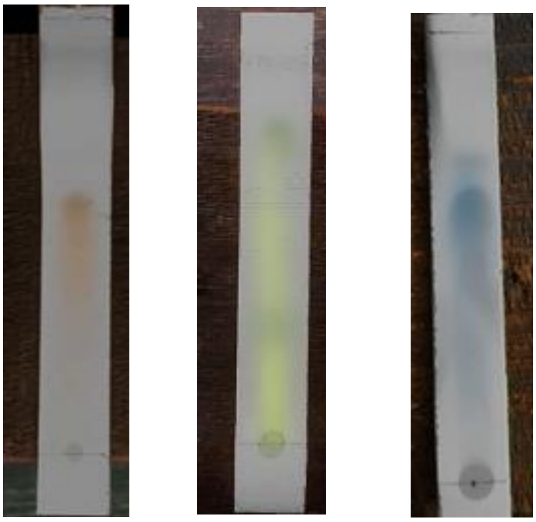
Ho = tidak terdapat perbedaan signifikan antar kelompok perlakuan uji penghambatan pertumbuhan biofilm.

Pengambilan keputusan :

- Jika nilai signifikansi ≤ 0,05 Ho diterima
- Jika nilai signifikansi ≥ 0,05 Ho ditolak

Lampiran 3

Hasil Uji KLT



N-heksan:etil asetat (1: 3)

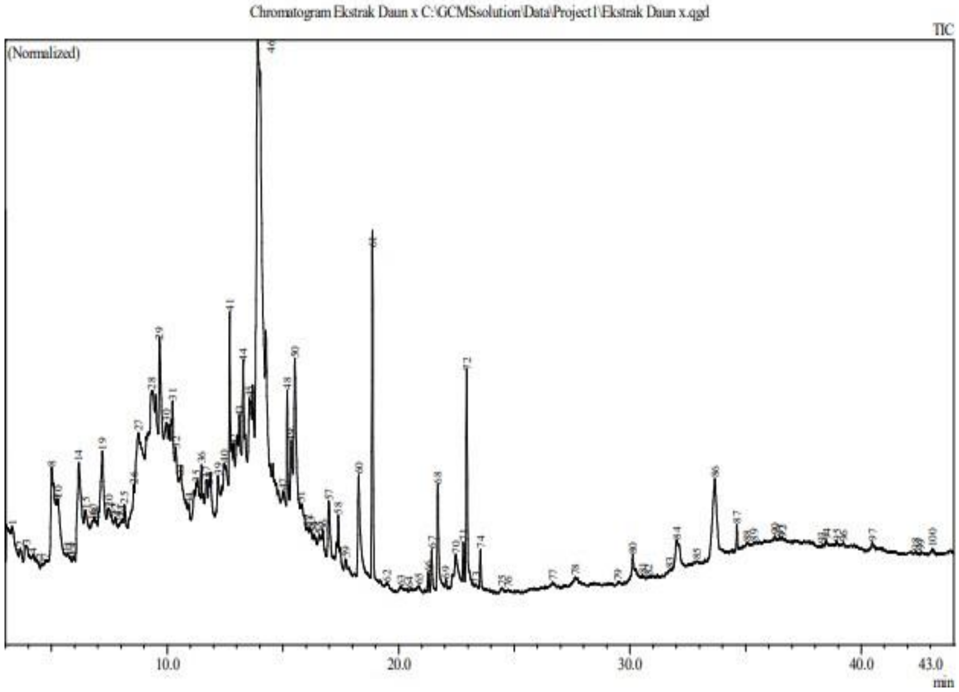
Hasil Uji GC-MS

DATA REPORT GCMS-QP2010 ULTRA SHIMADZU

Sample Information

Analyzed by	: Admin
Analyzed	: 7/12/2022 9:13:31 PM
Sample Type	: Unknown
Level #	: 1
Sample Name	: Ekstrak Daun x
Sample ID	:
IS Amount	: [1]=1
Sample Amount	: 1

Chromatogram Ekstrak Daun x C:\GCMSsolution\Data\Project1\Ekstrak Daun x.qgd



min

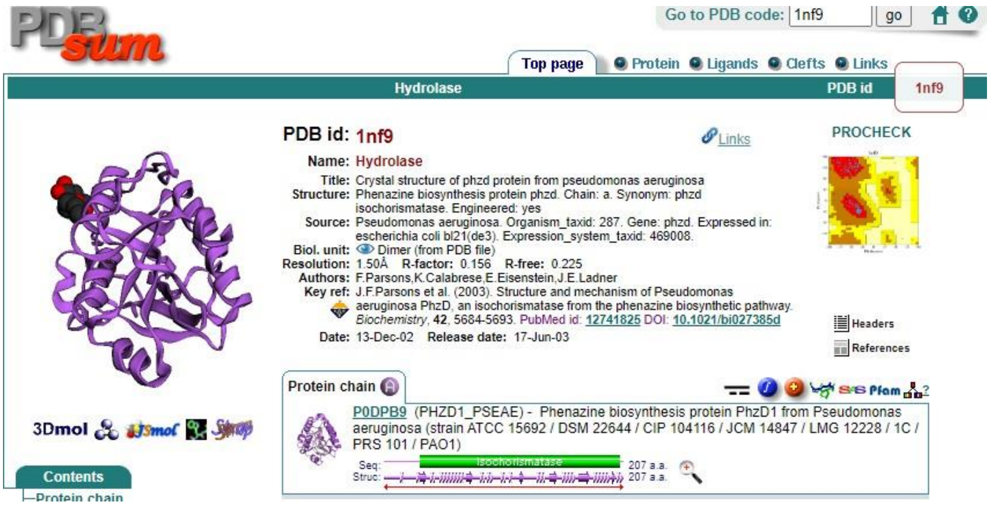
Peak Report TIC

Peak#	R.Time	Area	Area%	A/H	Name
1	3.299	251840	0.10	6.86	2-Pentanone, 4-methyl-1-(2,3,4,5-tetrahydro-5-methyl[2,3'-bifuran]-5-yl)- (CAS)
2	3.639	190938	0.08	6.24	1-Ethylpentyl acetate
3	3.913	675416	0.27	12.18	Propane, 1-(methylthio)-
4	4.186	290677	0.12	9.17	Morpholine, 4-methyl-, 4-oxide
5	4.375	193782	0.08	8.08	4 - hydroxy - 5,6 - dihydro - (2H) - pyran - 2 - one
6	4.567	104905	0.04	9.58	1,3-CYCLOHEXANEDIONE ENOL
7	4.725	244692	0.10	9.80	Eucalyptol
8	5.007	3824724	1.54	11.87	Benzeneacetaldehyde (CAS)
9	5.217	633822	0.26	2.93	4-PROPYL-1,3-OXATHIANE 3-OXIDE
10	5.281	2206717	0.89	9.98	SPIROHEXAN-5-ONE
11	5.700	615668	0.25	13.01	9-[2-Deoxy-.beta.-d-ribohexopyranosyl]purin-6(1H)-one
12	5.792	115198	0.05	2.94	3-CYCLOHEXEN-1-OL, 5,5-DIMETHYL-
13	5.943	343977	0.14	8.63	Oxirane, [(2-propenyloxy)methyl]-
14	6.178	4355708	1.75	12.96	Benzenesulfonamide, N-(4-ethenyltetrahydro-2-oxo-3-furanyl)-4-methyl-, trans-(.+-.)-
15	6.460	2497264	1.01	13.48	5-Butyldihydro-2(3H)thiophenone
16	6.750	1416648	0.57	9.49	1,3,2-DITHIABOROLANE, 2-IODO-
17	6.838	861760	0.35	5.24	1,4-Cyclohexanedione, 2,2,6-trimethyl-
18	6.925	810413	0.33	5.31	Benzeneacetic acid, methyl ester (CAS)
19	7.197	5356365	2.16	14.36	2-Butyl(dimethyl)silyloxybutane
20	7.476	2144386	0.86	11.17	Benzoic acid (CAS)
21	7.575	1154373	0.46	6.84	5-Hepten-2-one, 6-methyl-
22	7.757	1558379	0.63	9.51	1,2-Cyclohexanedimethanol
23	7.908	556678	0.22	3.90	Methanaminium, 1-carboxy-N,N,N-trimethyl-, hydroxide, inner salt (CAS)
24	8.063	1568882	0.63	9.84	Tetramethyl - cyclohexane
Peak#	R.Time	Area	Area%	A/H	Name
27	8.762	9966857	4.01	23.03	BENZENEACETIC ACID
28	9.331	16709467	6.72	29.52	1,2,4-Butanetriol (CAS)
29	9.676	7573840	3.05	10.32	PHENOL, 2-METHOXY-3-(2-PROPENYL)-
30	9.968	7931817	3.19	17.05	1,2,3,4-Butanetetrol, [S-(R*,R*)]- (CAS)
31	10.235	4796323	1.93	9.15	(E)-1-(2,3,6-trimethylphenyl)buta-1,3-diene (TPB, 1)
32	10.375	3307999	1.33	8.61	Benzene, 1-methyl-4-[(1-methylethylidene)cyclopropyl]- (CAS)
33	10.545	5731948	2.31	19.75	L-VALINE, N-ACETYL-
34	10.942	1799956	0.72	8.78	3,3-Dimethyl-6-methylenecyclohexene
35	11.263	4959203	2.00	18.02	2-[2-(2-BUTOXYETHOXY)ETHOXY]ETHANOL
36	11.486	3196506	1.29	9.95	1-Pyridineacetic acid, 4-(aminocarbonyl)hexahydro-, decyl ester
37	11.695	2272743	0.91	8.00	2,4-Heptadiene, 2,6-dimethyl-
38	11.825	3981129	1.60	14.78	7-Oxabicyclo[4.1.0]heptan-3-ol, 6-(3-hydroxy-1-butenyl)-1,5,5-trimethyl-
39	12.198	3153774	1.27	10.71	2(4H)-Benzofuranone, 5,6,7,7a-tetrahydro-4,4,7a-trimethyl-, (R)-
40	12.462	6331876	2.55	18.83	D-Allose
41	12.703	5785722	2.33	7.52	ETHYL PENTADECANOATE
42	12.892	1813290	0.73	4.58	Farnesene epoxide, E-
43	13.121	6513154	2.62	13.37	3-Hydroxy-.beta.-damascone
44	13.290	6755259	2.72	10.19	Megastigmatrienone
45	13.561	9218541	3.71	16.92	2-CYCLOHEXEN-1-ONE, 4-(3-HYDROXY-1-BUTENYL)-3,5,5-TRIMETHYL-, [R-|
46	13.923	44954350	18.09	26.73	1,3,4,5-TETRAHYDROXY-CYCLOHEXANECARBOXYLIC ACID
47	15.023	3195822	1.29	12.80	11-Benzyloxy-tricyclo[4.2.2.1(2,5)]undecan-7-ol
48	15.193	2942755	1.18	5.20	TETRADECANOIC ACID, ETHYL ESTER
49	15.359	2923734	1.18	7.17	2(4H)-BENZOFURANONE, 5,6,7,7A-TETRAHYDRO-6-HYDROXY-4,4,7A-TRIME
50	15.525	6814145	2.74	10.16	(S,E)-4-Hydroxy-3,5,5-trimethyl-4-(3-oxobut-1-en-1-yl)cyclohex-2-enone
51	15.772	2842188	1.14	13.63	Humulenol-II
52	16.075	899227	0.36	6.64	Androst-1-en-3-one, 17-hydroxy-, (5.beta.,17.beta.)-
53	16.192	1181866	0.48	9.07	Geranyl vinyl ether
54	16.345	1092405	0.44	9.71	Pentadecanoic acid
55	16.581	890425	0.36	8.01	Acetonylacetone dioxime
56	16.742	1264107	0.51	10.27	1,1,4,7-Tetramethyldecahydro-1H-cyclopropa[e]azulene-4,7-diol
57	16.988	1884570	0.76	8.71	Prop-2-yn-1-yl 2-methylbutanoate
58	17.396	1509543	0.61	8.90	Hexadecanoic acid, methyl ester
59	17.709	356539	0.14	9.43	7-Oxabicyclo[4.1.0]heptan-3-ol, 6-(3-hydroxy-1-butenyl)-1,5,5-trimethyl-
60	18.279	2764360	1.11	8.61	n-Hexadecanoic acid
61	18.872	4216342	1.70	3.88	HEXADECANOIC ACID, ETHYL ESTER
62	19.511	131059	0.05	10.08	6-OCTEN-1-OL, 2,3-EPOXY-3,7-DIMETHYL-
63	20.107	232267	0.09	14.52	2(1H)-Naphthalenone, octahydro-1,1,4a-trimethyl-, trans-
64	20.475	232968	0.09	24.95	2-Chloro-1,3-thiazole-5-carbaldehyde
65	20.884	203900	0.08	9.88	1,4-HEPTADIEN-6-OL, 3,3,6-TRIMETHYL- (YOMOGIALKOHOL)
66	21.288	281806	0.11	4.59	9,12-Octadecadienoic acid, methyl ester
67	21.437	612431	0.25	4.69	9,12,15-Octadecatrienoic acid, methyl ester (CAS)
68	21.700	1932938	0.78	5.95	Phytol
69	22.052	209133	0.08	5.13	Octadecanoic acid, methyl ester
70	22.476	1938991	0.78	16.17	9,12,15-Octadecatrienoic acid, (Z,Z,Z)-
71	22.803	679564	0.27	4.42	Linoleic acid ethyl ester
72	22.949	3362243	1.35	5.01	9-OCTADECENOIC ACID (Z)-, ETHYL ESTER
73	23.358	221743	0.09	9.33	Geldaramycin
74	23.544	632558	0.25	4.79	OCTADECANOIC ACID, ETHYL ESTER
75	24.483	129670	0.05	9.31	Spiro[7H-cyclohepta[b]furan-7,2'(5'H)-furan]-2,5'(3H)-dione, octahydro-8-hydroxy-6,8-
76	24.757	63109	0.03	7.24	1,10-Dichloro-11-oxapentacyclo[5.4.1.0(2,6).0(3,10).0(4,8)]dodecane
77	26.670	175965	0.07	10.66	Benzoic acid, undecyl ester
78	27.638	294571	0.12	12.50	HEPTADECANOIC ACID, ETHYL ESTER
79	29.492	80518	0.03	9.65	1,2-Benzisoselenazole (CAS)
80	30.130	1010242	0.41	11.64	1,2-Benzenedicarboxylic acid, bis(2-ethylhexyl) ester (CAS)
81	30.558	165926	0.07	9.48	(1aR,4S,7R,7aS,7bR)-1,1,4,7-Tetramethyl-1a,2,3,4,6,7,7a,7b-octahydro-1H-cyclopropa|
82	30.792	179962	0.07	23.95	5,12-Naphthacenedione, 7,8,9,10-tetrahydro-6,8,11-trihydroxy-8-(hydroxyacetyl)-1-metl
83	31.725	196275	0.08	14.70	Diisopropyl [hex-3-en-3-yl]phosphonate
84	32.033	1394415	0.56	14.36	Lup-20(29)-en-3-one
85	32.891	128968	0.05	11.69	TRIDEUTERIOMETHYL 10-EPOXY-7-ETHYL-3,11-DIMETHYLTRIDECA-2,6-DI
86	33.674	3474706	1.40	13.85	Lupeol
87	34.627	247900	0.10	3.11	Squalene
88	35.061	84360	0.03	8.01	2(1H)-PYRIMIDINONE, 4-[(2-HYDROXYETHYL)AMINO]-
89	35.375	120945	0.05	15.39	n-Tridecan-1-ol
90	36.269	107571	0.04	5.71	Acetyl betulinaldehyde
91	36.475	98297	0.04	6.43	(2,2,6-TRIMETHYL-BICYCLO[4.1.0]HEPT-1-YL)-METHANOL
92	36.608	113493	0.05	8.31	Methyl 3-acetoxyhexadecanoate
93	38.292	48288	0.02	6.51	Pregn-4-en-18-al, 11,21-dihydroxy-3,20-dioxo-, (11.beta.)- (CAS)
94	38.496	147759	0.06	7.49	Farnesol
95	38.939	227131	0.09	12.24	28-Norolean-17-en-3-ol
96	39.239	99606	0.04	8.09	METHYL TRISPORATE C
97	40.481	209381	0.08	8.39	.alpha.-Tocopherol-.beta.-D-mannoside
98	42.361	155282	0.06	15.45	Propanamide, 3-cyclopentyl-N-hexyl-
99	42.575	106507	0.04	13.17	1H-imidazole-2-methanol, 1-decyl-
100	43.082	191171	0.08	9.65	Lanosterol
		248474648	100.00		

Lampiran 4

Hasil Uji Molekuler Docking

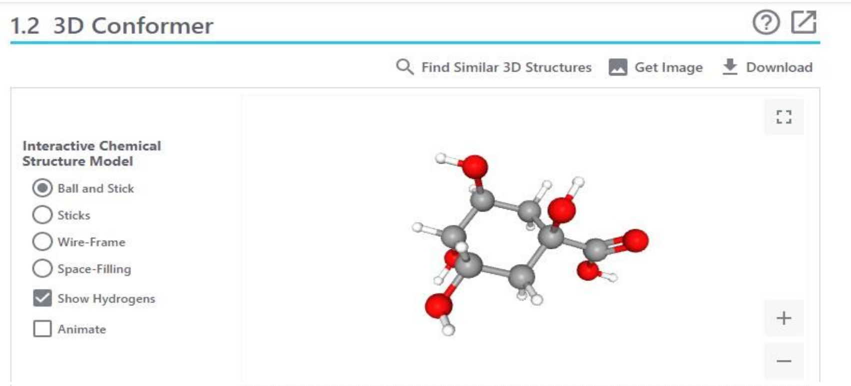
1. Pencarian Protein



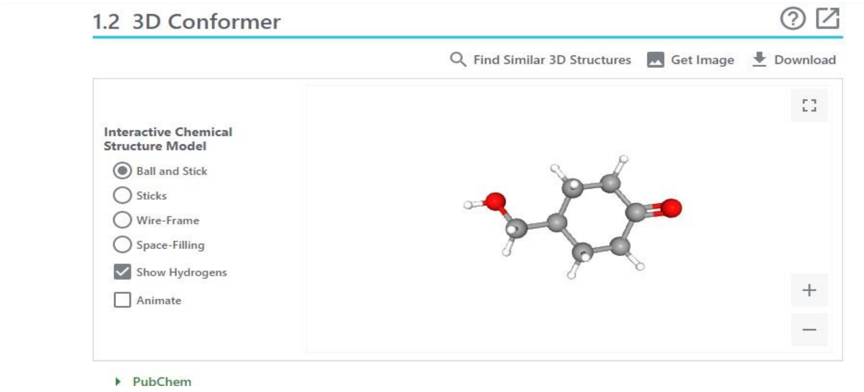
Gambar 1 Protein target *Phenazine Biosynthesis Protein PhzD2 Pseudomonas aeruginosa*

Gambar 2 Protein target dan *Biofilm-associated surface protein Methicilin Resisten Staphyloccoccus aureus*

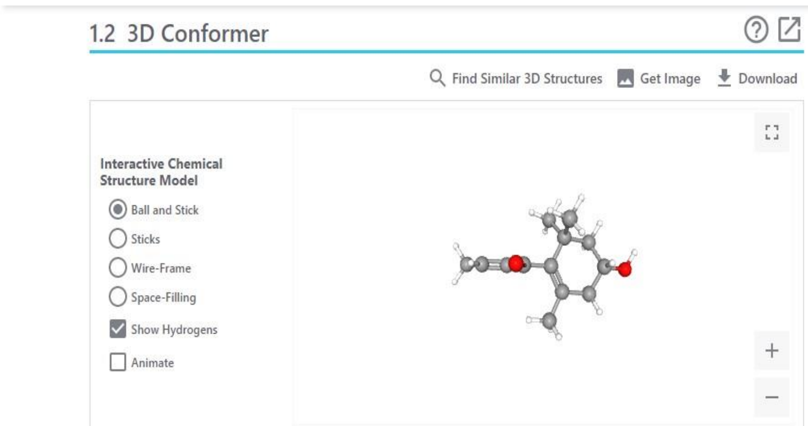
1. Ligand



Gambar 1. 1,2,3,4,5-Tetrahidroxy-Cyclohexanecarboxylic Acid,

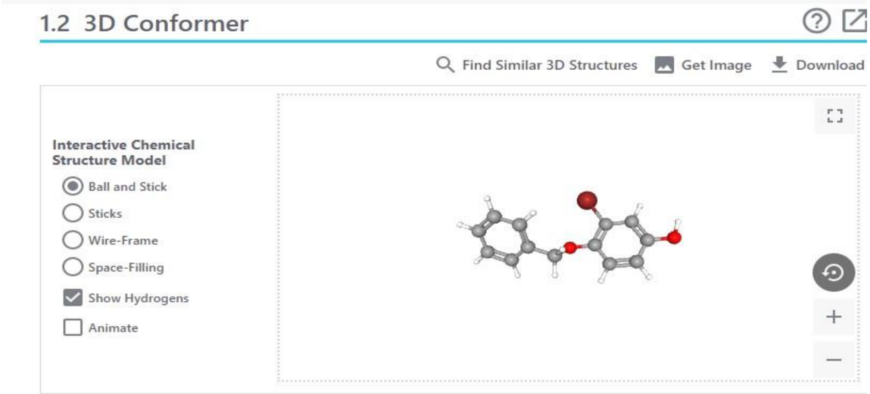


Gambar 2. 2-Cyclohexen-1-One, 4-(3-Hydroxy-1-Butenyl)-3,5,5-Trimethyl-, [R-[R

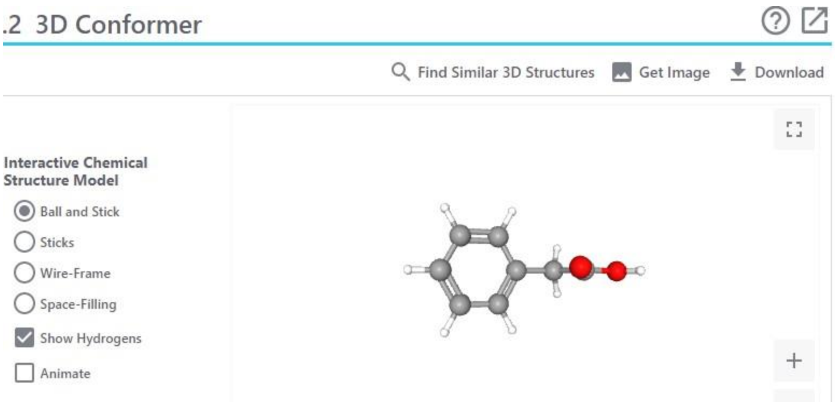


Gambar 3 ligand *3-Hydroxy-.beta.-damascone*

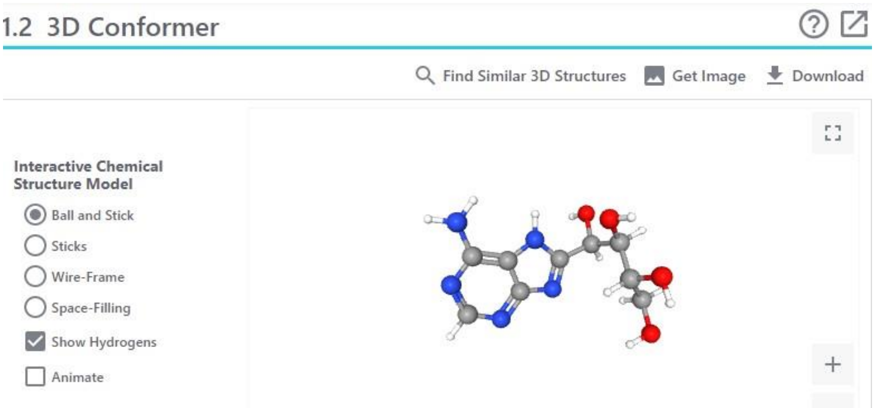
Lampiran 17



Gambar 4 ligand Phenol, 2-Methoxy-3-(2-Propenyl)-

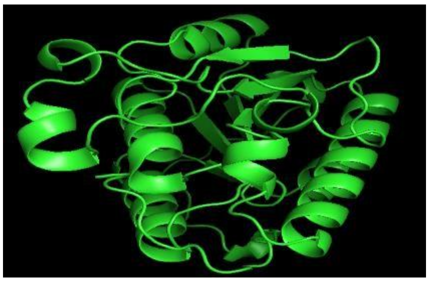
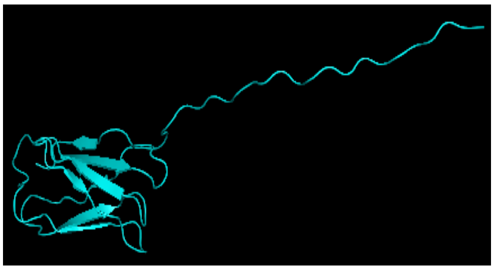


Gambar 5 ligand Benzenacetid acid



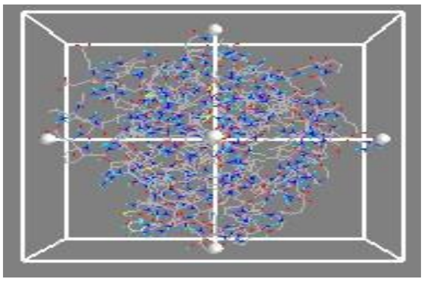
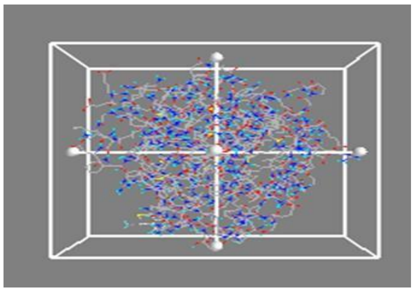
Gambar 5 ligand 1,2,3,4 Butaneterol

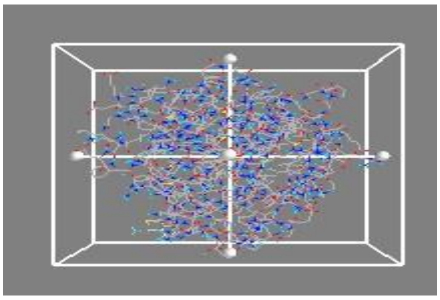
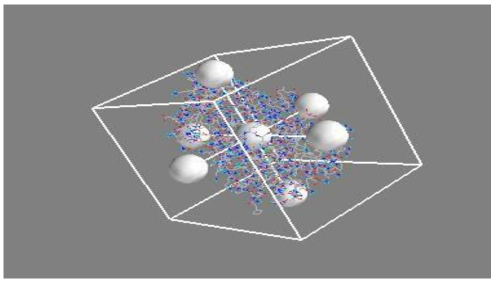
2. Makromolekul

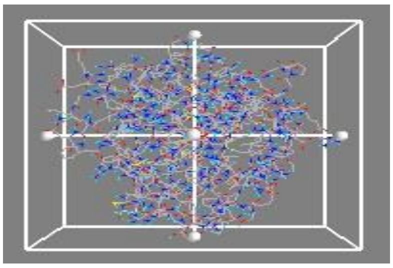
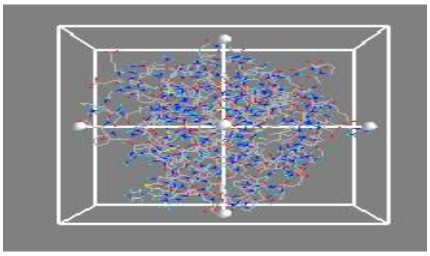
	
Phenazine Biosynthesis Protein PhzD2	*Biofilm-associated surface protein*

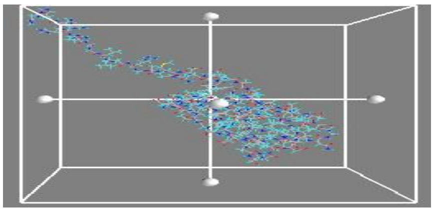
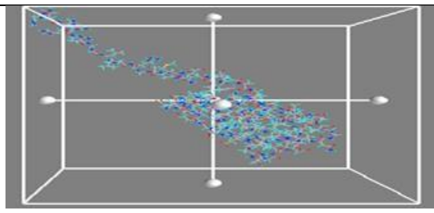
Gambar 4 Hasil preparasi Protein target

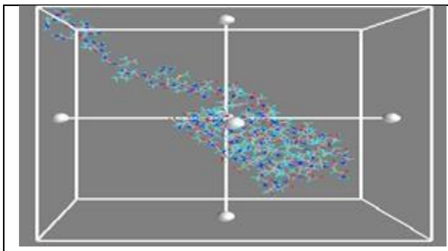
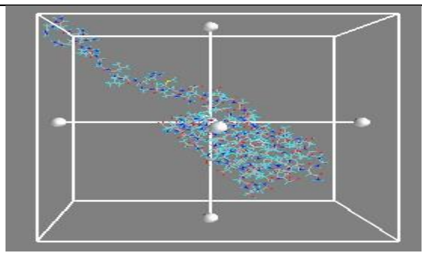
3. Penambatan pada aplikasi PyRx

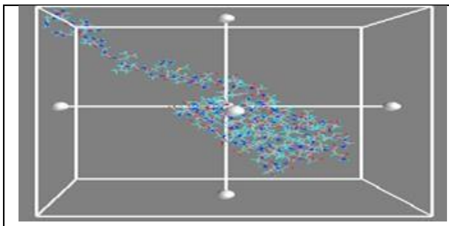
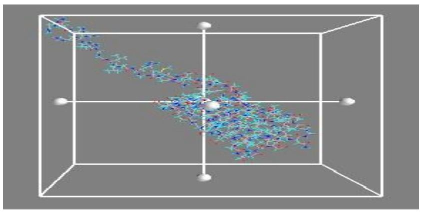
	
Ligand 1,2,3,4,5-Tetrahidroxy-Cyclohexanecarboxylic Acid Dan makromolekul *Phenazine Biosynthesis Protein PhzD2*	Ligand 2-Cyclohexen-1-One, 4-(3-Hydroxy-1-Butenyl)-3,5,5-Dan makromolekul *Phenazine Biosynthesis Protein PhzD2*

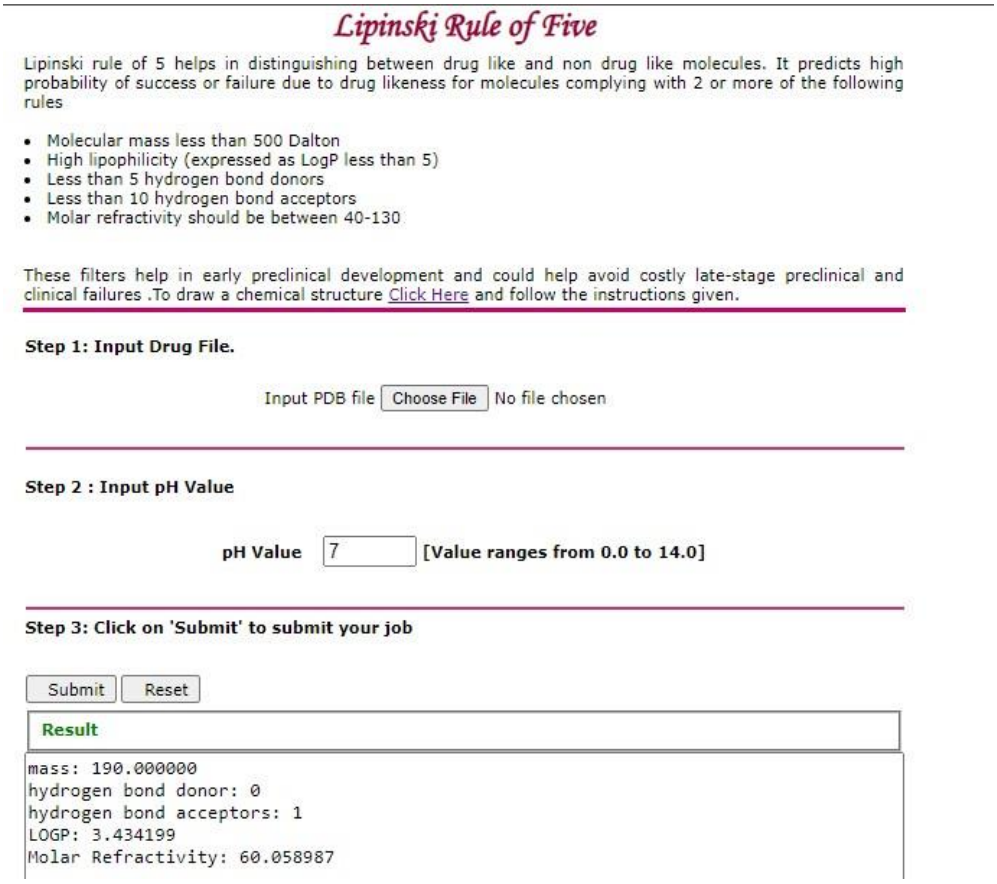
	
Ligand *3-Hydroxy-.beta.-damascone* Dan makromolekul *Phenazine Biosynthesis Protein PhzD2*	Ligand Phenol, 2-Methoxy-3-(2-Propenyl)-, dan makromolekul *Phenazine Biosynthesis Protein PhzD2*

	
Ligand 1,2,3,4 Butaneterol Dan makromolekul *Phenazine Biosynthesis Protein PhzD2*	Ligand Ciprofloxacin dengan *Phenazine Biosynthesis Protein PhzD2*

	
Ligand 1,2,3,4,5-Tetrahidroxy-Cyclohexanecarboxylic Acid Dan makromolekul Biofilm-associated surface protein	Ligand 2-Cyclohexen-1-One, 4-(3-Hydroxy-1-Butenyl)-3,5,5-Trimethyl-, [R-[R, Dan makromolekul Biofilm-associated surface protein

	
Ligand 2-Cyclohexen-1-One, 4-(3-Hydroxy-1-Butenyl)-3,5,5-Trimethyl-, [R-[R, Dan makromolekul Biofilm-associated surface protein	Ligand 3-Hydroxy-.beta.-damascone, Phenol, 2-Methoxy-3-(2-Propenyl)-, Dan makromolekul Biofilm-associated surface protein

 Ligand Benzeneacetic acid Dan makromolekul Biofilm-associated surface protein	 Ligand Ciprofloxacin Dan makromolekul Biofilm-associated surface protein


Lipinski Rule of Five

Lipinski rule of 5 helps in distinguishing between drug like and non drug like molecules. It predicts high probability of success or failure due to drug likeness for molecules complying with 2 or more of the following rules

- Molecular mass less than 500 Dalton
- High lipophilicity (expressed as LogP less than 5)
- Less than 5 hydrogen bond donors
- Less than 10 hydrogen bond acceptors
- Molar refractivity should be between 40-130

These filters help in early preclinical development and could help avoid costly late-stage preclinical and clinical failures .To draw a chemical structure Click Here and follow the instructions given.

Step 1: Input Drug File.

Input PDB file [Choose File] No file chosen

Step 2 : Input pH Value

pH Value 7 **[Value ranges from 0.0 to 14.0]**

Step 3: Click on 'Submit' to submit your job

[Submit] [Reset]

Result

```
mass: 190.000000
hydrogen bond donor: 0
hydrogen bond acceptors: 1
LOGP: 3.434199
Molar Refractivity: 60.058987
```

Adapun aturan Lipinski yang harus dipenuhi yaitu :

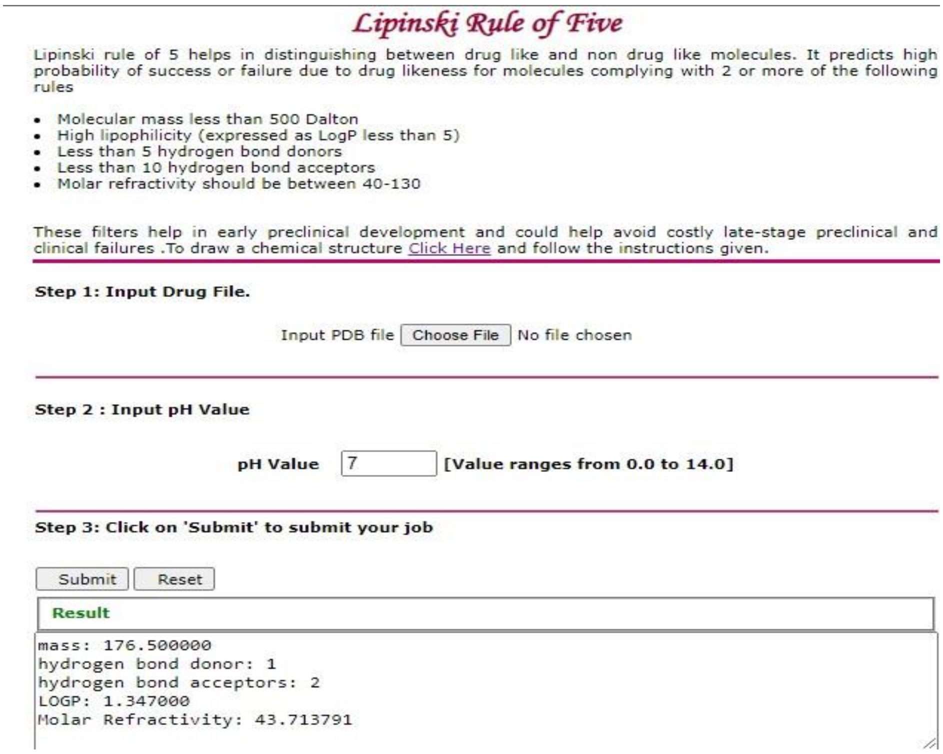
- Massa molekul kurang dari 500 dalton
- Log P kurang dari 5
- Ikatan hidrogen donor kurang dari 5
- Ikatan hidrogen aseptor kurang dari 10

- Molar refractivity antara 40-130

Berdasarkan hasil uji, ditemukan hasil sebagai berikut:

- Massa molekul 192 dalton
- Log : P 3.434199
- Ikatan hidrogen donor : 0
- Ikatan hydrogen aseptor : 1
- Molar refractivity 60.058987

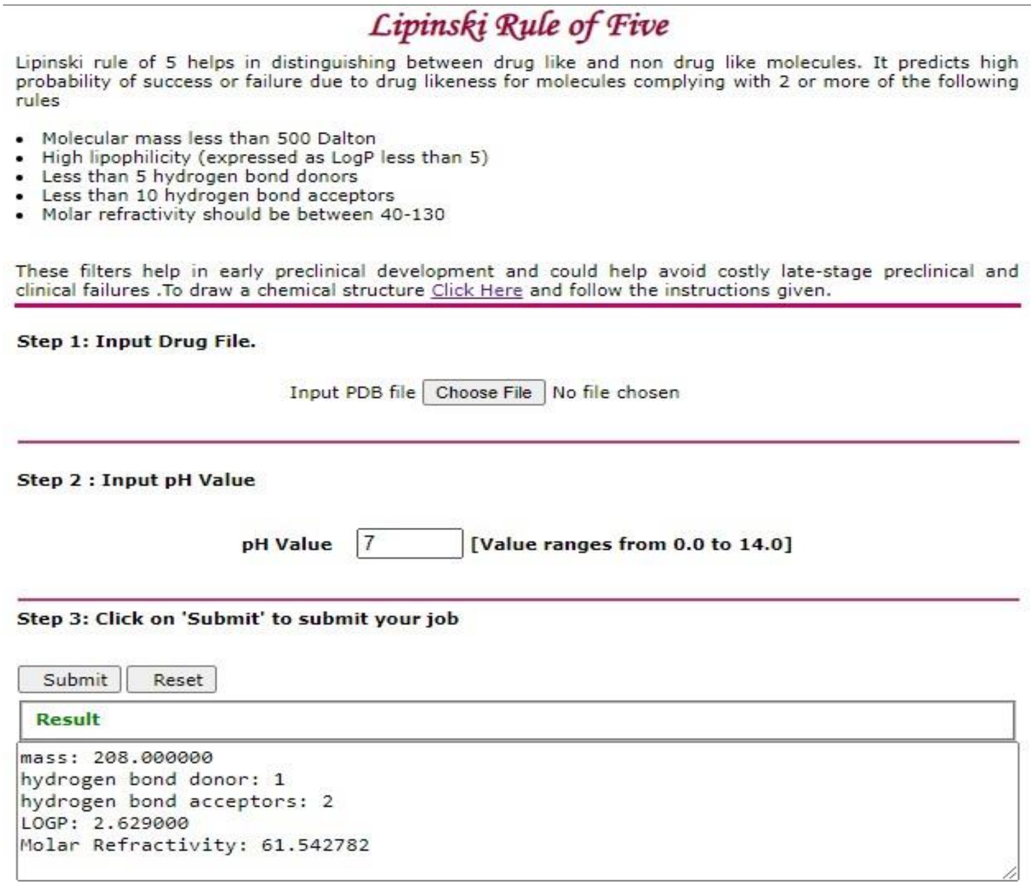
Gambar 1. Uji Lipinski 1,2,3,4,5-Tetrahidroxy-Cyclohexanecarboxylic Acid



Berdasarkan hasil uji, ditemukan hasil sebagai berikut:

- Massa molekul 176 dalton
- Log : P 1.34.7000
- Ikatan hidrogen donor : 1
- Ikatan hydrogen aseptor :2
- Molar refractivity 43.713791

Gambar 2. 2-Cyclohexen-1-One, 4-(3-Hydroxy-1-Butenyl)-3,5,5-Trimethyl-, [R-[R,


Lipinski Rule of Five

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- Molecular mass less than 500 Dalton
- High lipophilicity (expressed as LogP less than 5)
- Less than 5 hydrogen bond donors
- Less than 10 hydrogen bond acceptors
- Molar refractivity should be between 40-130

These filters help in early preclinical development and could help avoid costly late-stage preclinical and clinical failures .To draw a chemical structure Click Here and follow the instructions given.

Step 1: Input Drug File.

Input PDB file Choose File No file chosen

Step 2 : Input pH Value

pH Value 7 **[Value ranges from 0.0 to 14.0]**

Step 3: Click on 'Submit' to submit your job

Submit Reset

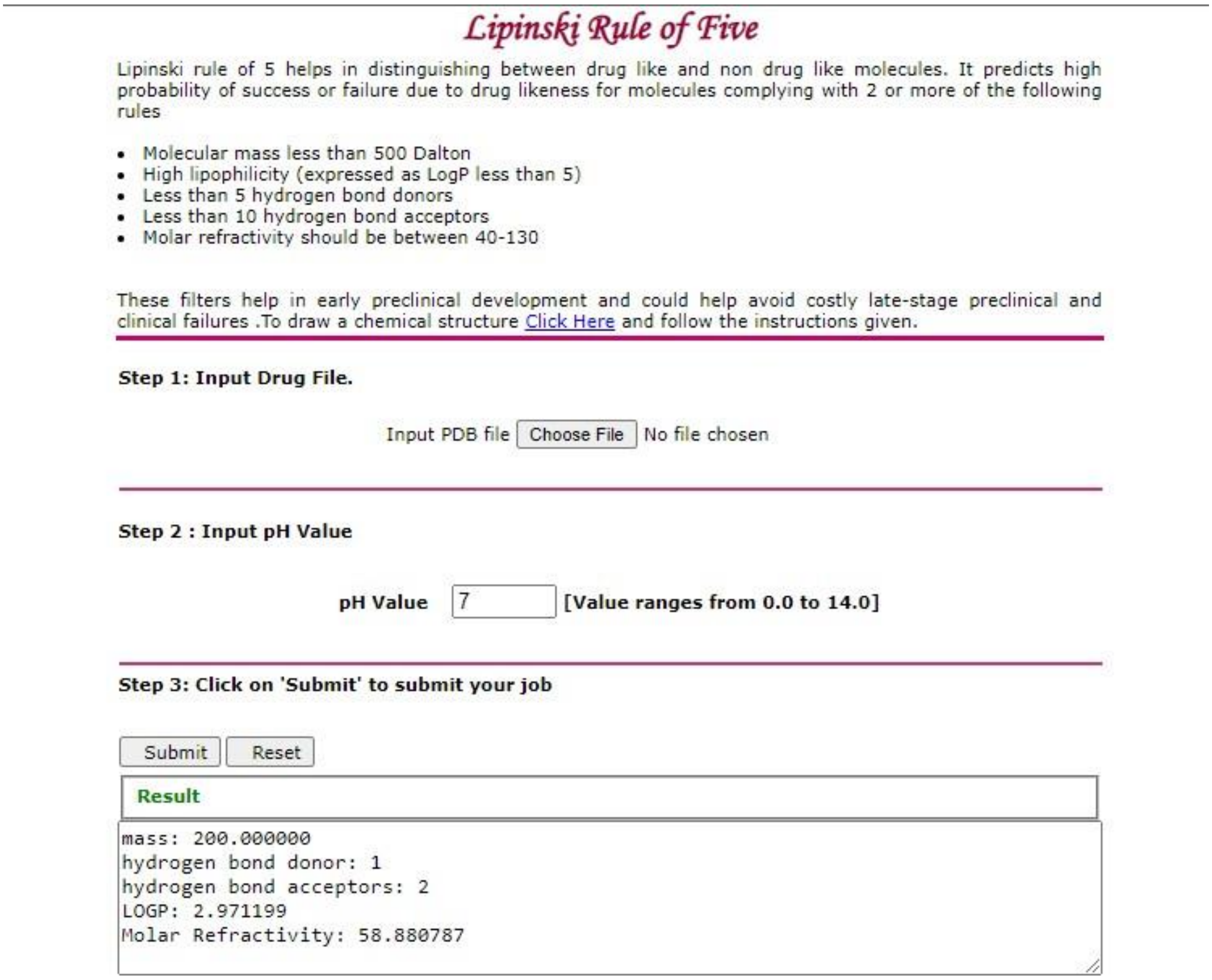
Result

```
mass: 208.000000
hydrogen bond donor: 1
hydrogen bond acceptors: 2
LOGP: 2.629000
Molar Refractivity: 61.542782
```

Berdasarkan hasil uji, ditemukan hasil sebagai berikut:

- Massa molekul 208 dalton
- Log : P 2.629000
- Ikatan hidrogen donor : 1
- Ikatan hydrogen aseptor :2
- Molar refractivity 61.542782

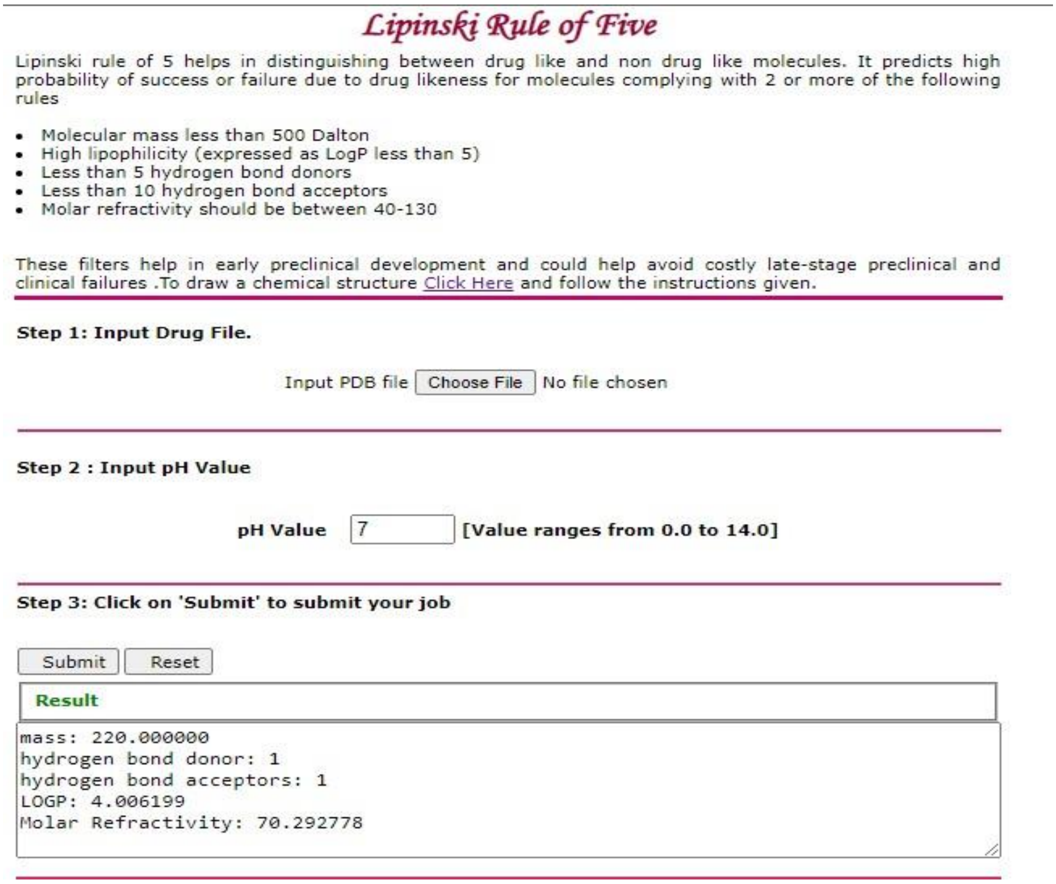
Gambar 3. 3-Hydroxy-.beta.-damascone,



Berdasarkan hasil uji, ditemukan hasil sebagai berikut:

- Massa molekul 200 dalton
- Log : P 2.971199
- Ikatan hidrogen donor : 1
- Ikatan hydrogen aseptor :2
- Molar refractivity 58.880787

Gambar..Uji aturan Lipinski Phenol, 2-Methoxy-3-(2-Propenyl)-,



Lipinski Rule of Five

Lipinski rule of 5 helps in distinguishing between drug like and non drug like molecules. It predicts high probability of success or failure due to drug likeness for molecules complying with 2 or more of the following rules

- Molecular mass less than 500 Dalton
- High lipophilicity (expressed as LogP less than 5)
- Less than 5 hydrogen bond donors
- Less than 10 hydrogen bond acceptors
- Molar refractivity should be between 40-130

These filters help in early preclinical development and could help avoid costly late-stage preclinical and clinical failures .To draw a chemical structure Click Here and follow the instructions given.

Step 1: Input Drug File.

Input PDB file [Choose File] No file chosen

Step 2 : Input pH Value

pH Value [7] **[Value ranges from 0.0 to 14.0]**

Step 3: Click on 'Submit' to submit your job

[Submit] [Reset]

Result

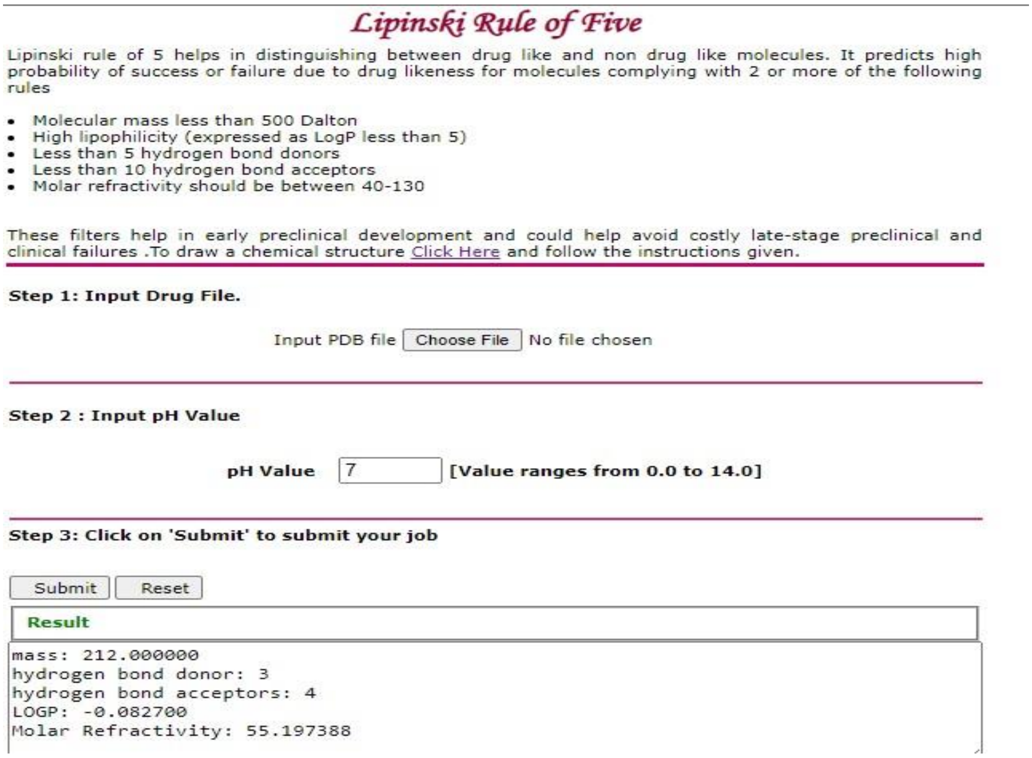
```
mass: 220.000000
hydrogen bond donor: 1
hydrogen bond acceptors: 1
LOGP: 4.006199
Molar Refractivity: 70.292778
```

Berdasarkan hasil uji, ditemukan hasil sebagai berikut:

- Massa molekul 220 dalton
- Log : P 4.006199
- Ikatan hidrogen donor : 1
- Ikatan hydrogen aseptor :1
- Molar refractivity70.292778

Gambar..Uji aturan Lipinski Benzenacetic acid

Lampiran 25



Lipinski Rule of Five

Lipinski rule of 5 helps in distinguishing between drug like and non drug like molecules. It predicts high probability of success or failure due to drug likeness for molecules complying with 2 or more of the following rules

- Molecular mass less than 500 Dalton
- High lipophilicity (expressed as LogP less than 5)
- Less than 5 hydrogen bond donors
- Less than 10 hydrogen bond acceptors
- Molar refractivity should be between 40-130

These filters help in early preclinical development and could help avoid costly late-stage preclinical and clinical failures .To draw a chemical structure Click Here and follow the instructions given.

Step 1: Input Drug File.

Input PDB file [Choose File] No file chosen

Step 2 : Input pH Value

pH Value [7] **[Value ranges from 0.0 to 14.0]**

Step 3: Click on 'Submit' to submit your job

[Submit] [Reset]

Result

```
mass: 212.000000
hydrogen bond donor: 3
hydrogen bond acceptors: 4
LOGP: -0.082700
Molar Refractivity: 55.197388
```

Berdasarkan hasil uji, ditemukan hasil sebagai berikut:

- Massa molekul 212 dalton
- Log : P -0.082700
- Ikatan hidrogen donor : 3
- Ikatan hydrogen aseptor :4
- Molar refractivity 55.197366

Gambar..Uji aturan Lipinski 1,2,3,4 Butaneterol