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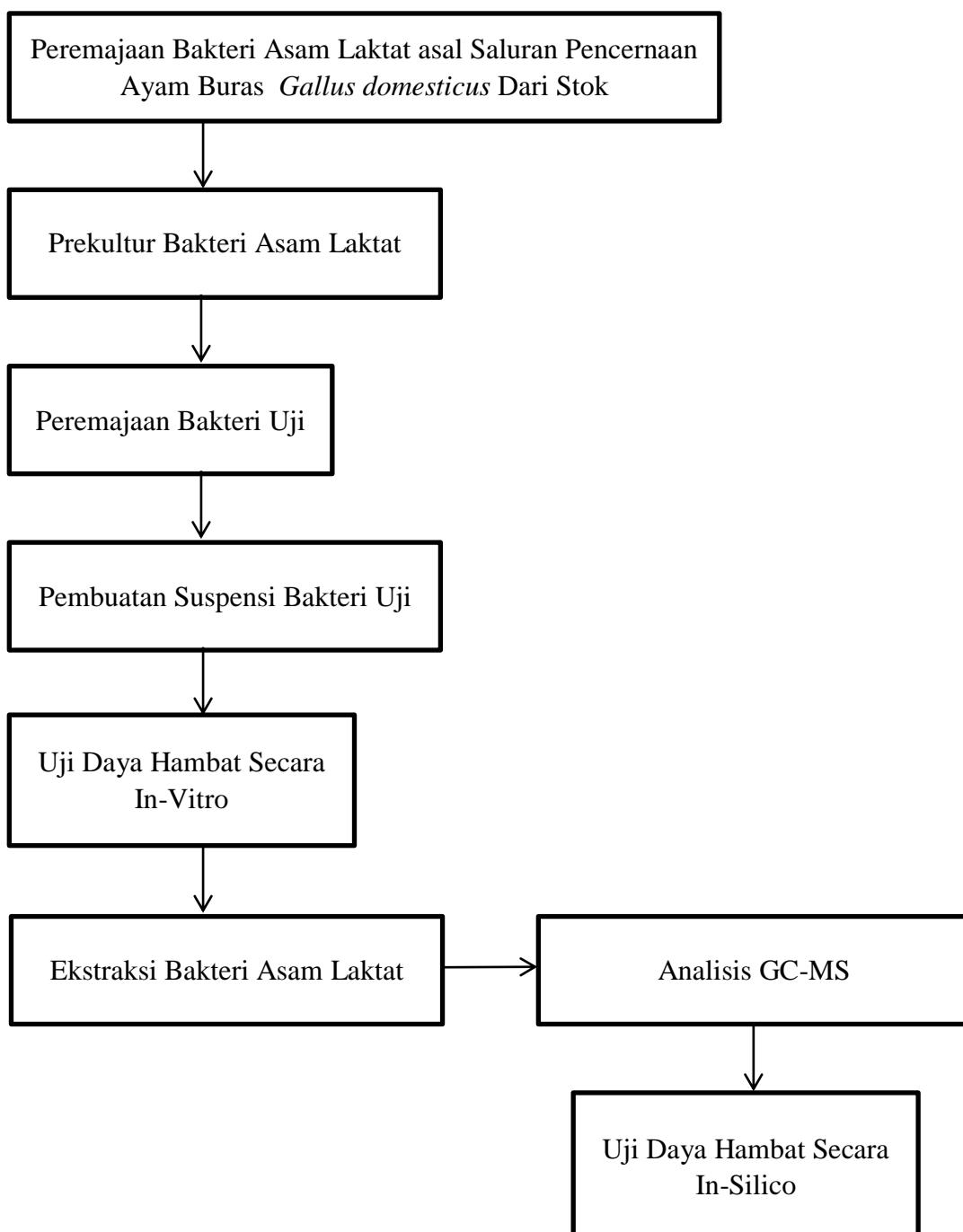
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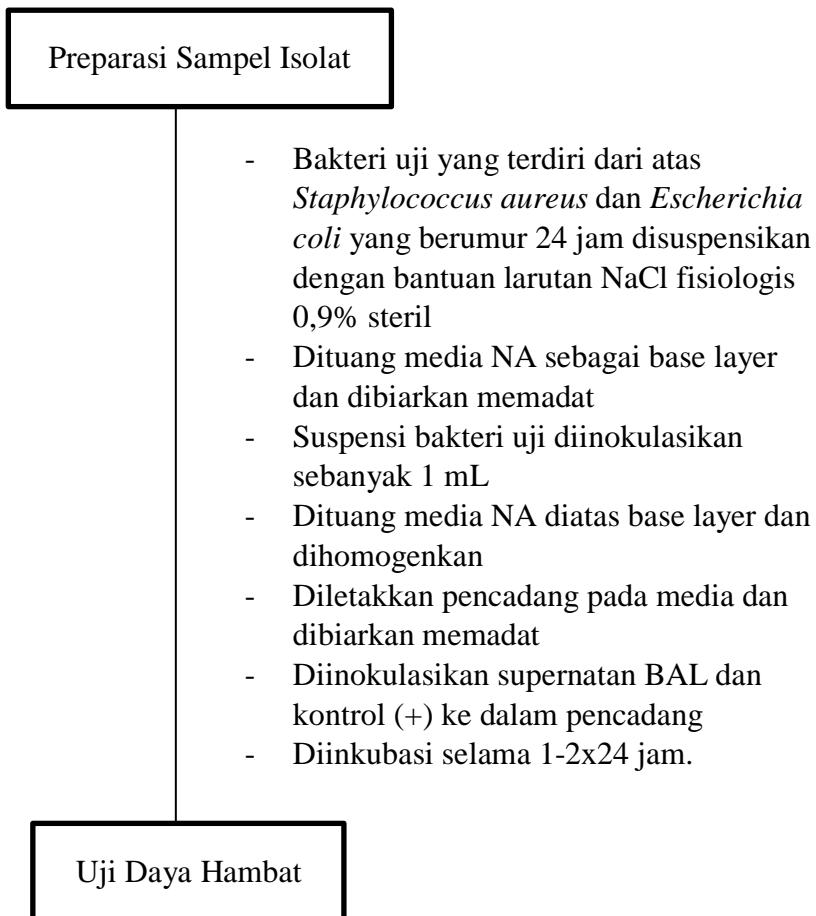
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## LAMPIRAN

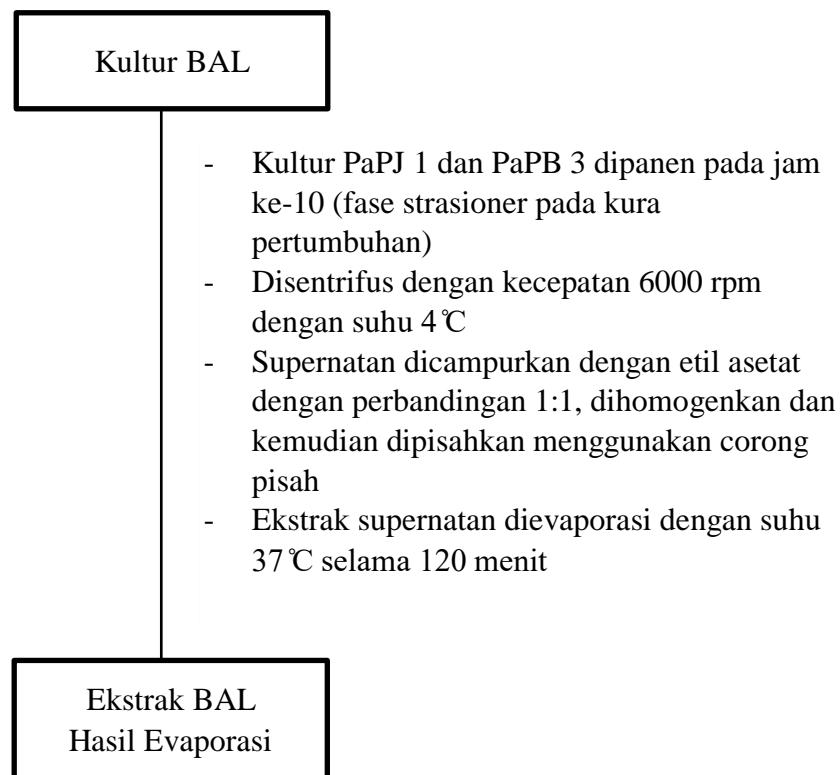
### Lampiran 1. Skema Kerja Uji Bakteri Asam Laktat Ayam Buras *Gallus domesticus*



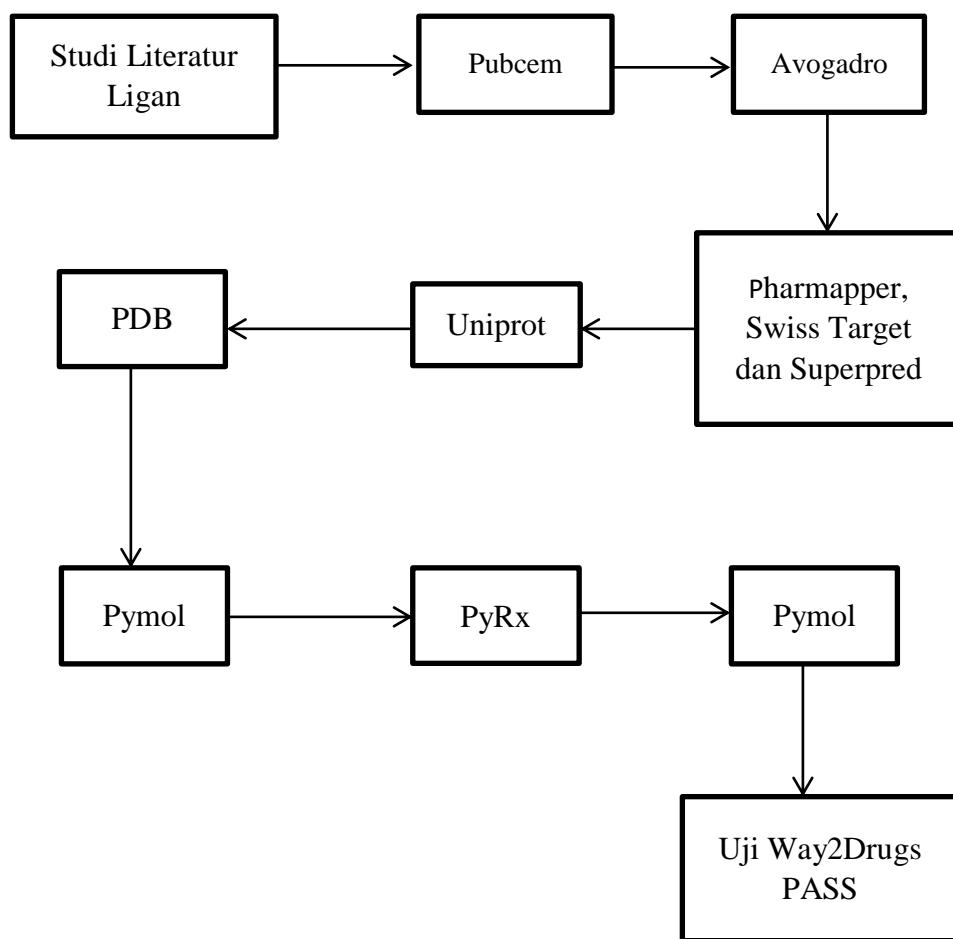
## **Lampiran 2. Uji Daya Hambat Secara In-Vitro**



### Lampiran 3. Ekstraksi Bakteri Asam Laktat



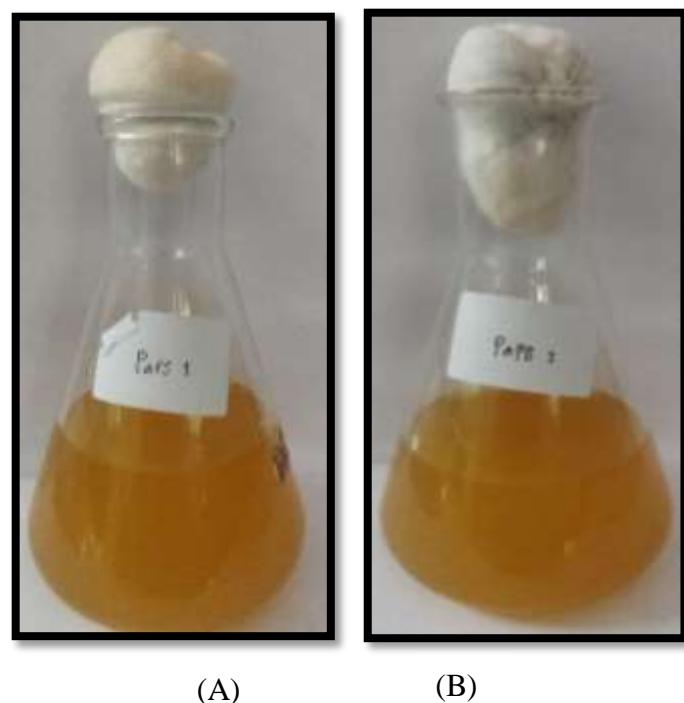
#### Lampiran 4. Alur Pengujian In-Silico



**Lampiran 5. Dokumentasi Pembuatan Stok dan Kultur Isolat Bakteri Asam Laktat**



**Gambar 1.** Stok Bakteri Asam Laktat (A) PaPJ 1 dan (B) PaPB 3.



**Gambar 2.** Kultur Bakteri Asam Laktat (A) PaPJ 1 dan (B) PaPB 3.

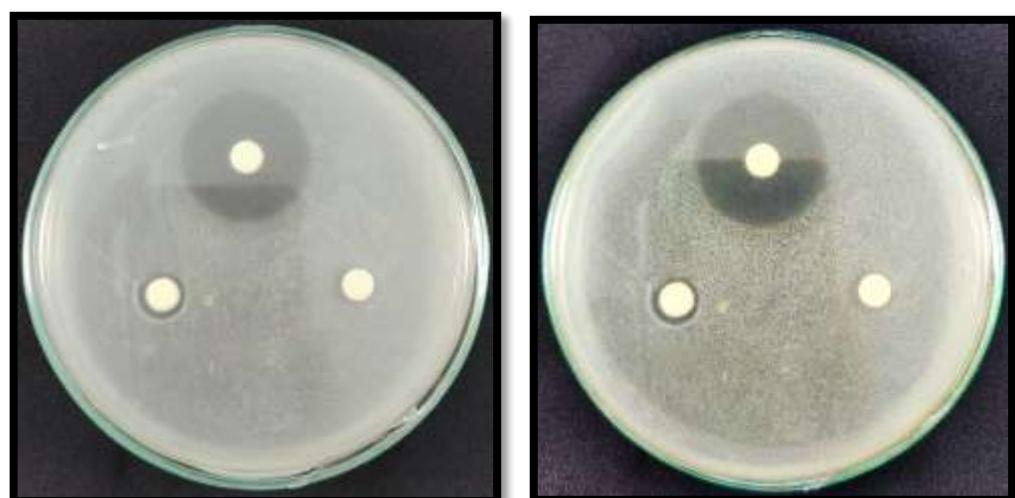
## Lampiran 6. Dokumentasi Uji Daya Hambat Bakteri



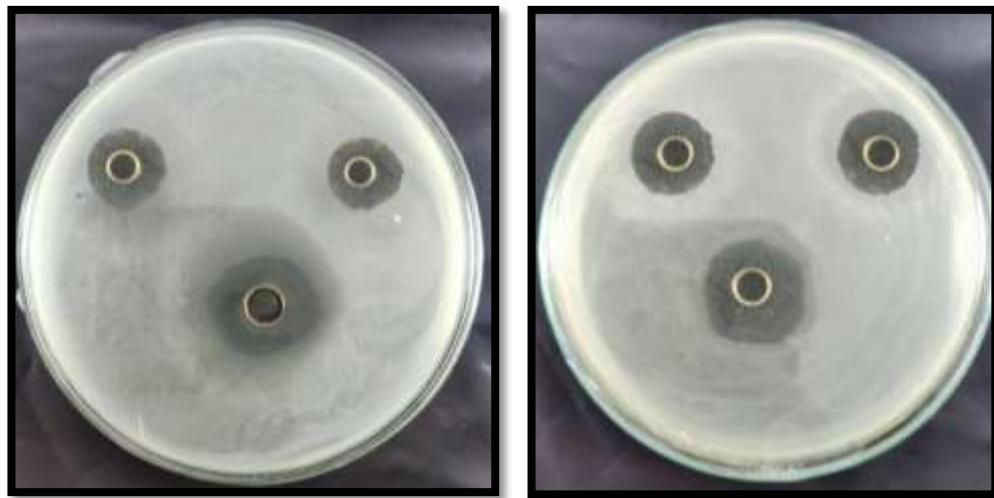
**Gambar 1.** Inokulasi Kultur Bakteri Asam Laktat dan Antibiotik Ciprofloxacin Kedalam Pencadang.



**Gambar 2.** Uji Daya Hambat Terhadap Bakteri *Staphylococcus aureus* dan *Escherichia coli*.



**Gambar 3.** Hasil Uji Daya Hambat Terhadap Bakteri *Staphylococcus aureus* dan *Escherichia coli* (Menggunakan Blank Disk).

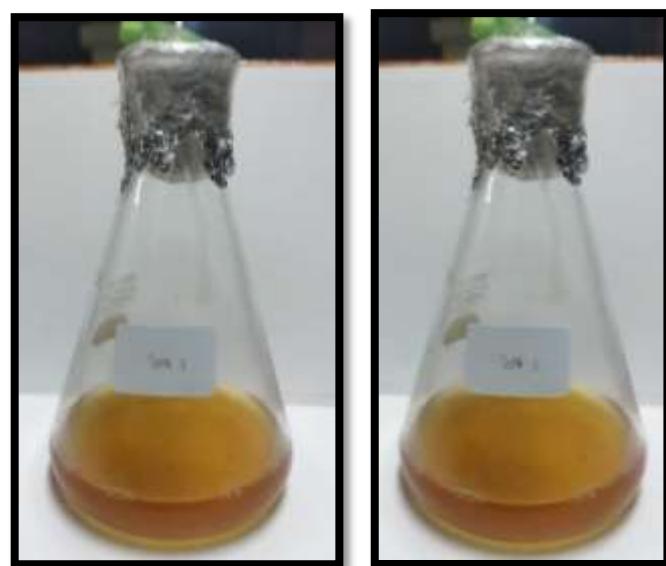


**Gambar 4.** Hasil Uji Daya Hambat Terhadap Bakteri *Staphylococcus aureus* dan *Escherichia coli* (Menggunakan Pencadang).

**Lampiran 7. Dokumentasi Ekstraksi Bakteri Asam Laktat**



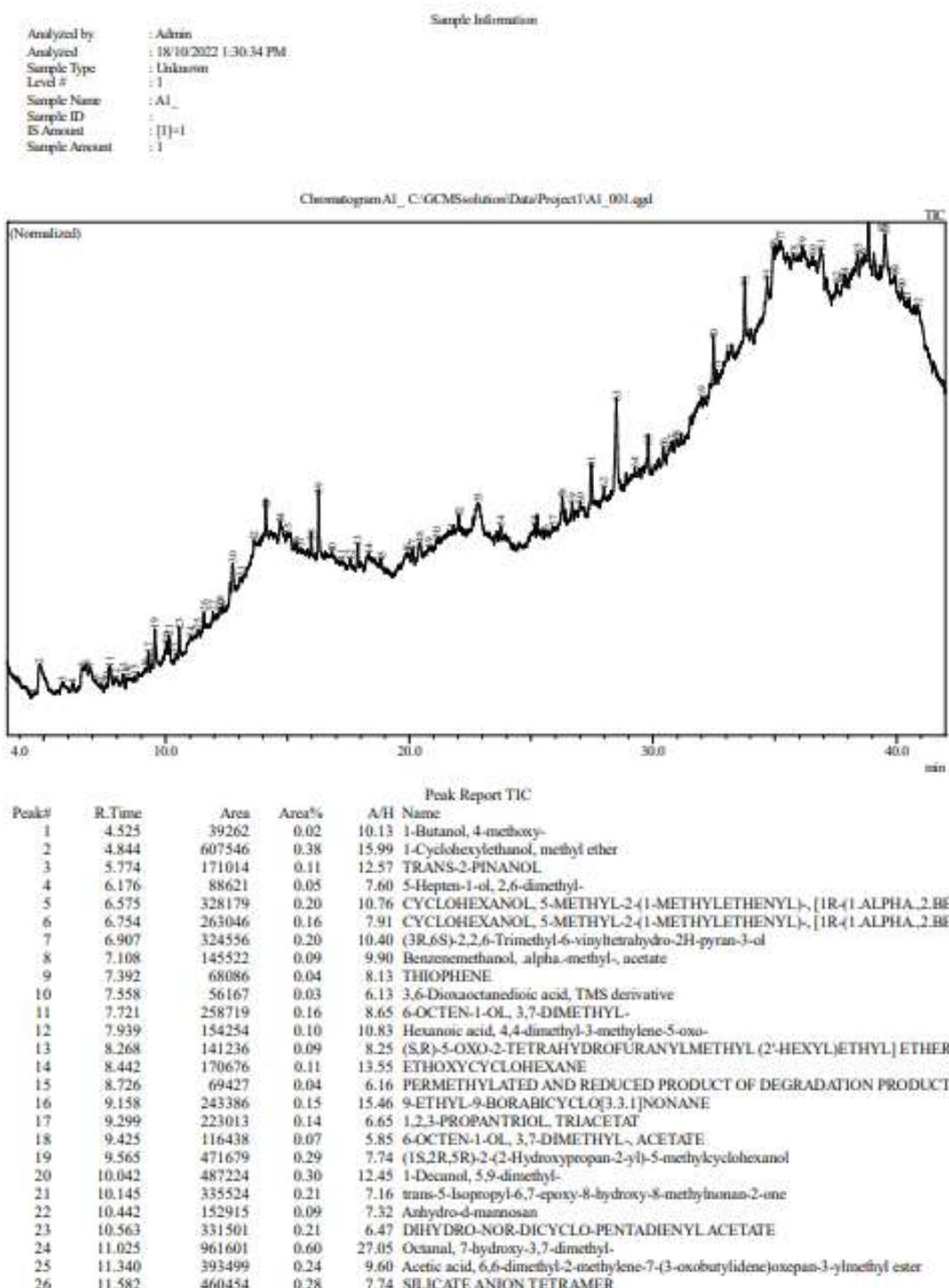
**Gambar 1.** Preparasi Ekstrak Kultur Bakteri Asam Laktat Yang Akan Di Evaporasi.



**Gambar 2.** Hasil Ekstrak Kultur BAL Yang Telah Di Evaporasi.

## Lampiran 8. Hasil Analisis GC-MS

### DATA REPORT GCMS-QP2010 ULTRA SHIMADZU

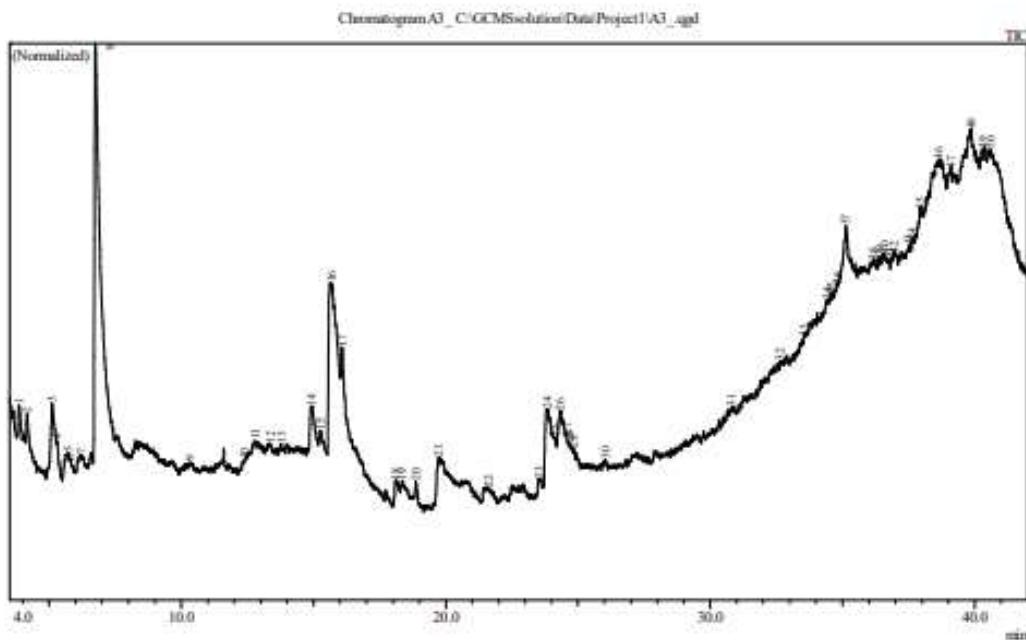


Peak#	R.Time	Area	Area%	A/H Name
27	11.942	1399586	0.87	25.30 Lilial
28	12.258	531830	0.33	9.11 CYCLOHEXANEMETHANOL, 4-ETHENYL-, ALPHA,,ALPHA,4-TRIMETHYL-3-
29	12.325	537332	0.33	10.28 Isobomeol, pentamethylsilyl ether
30	12.763	1955911	1.21	18.37 2-HYDROXY-1-ADAMANTANE CARBONITRILE
31	13.075	1122584	0.69	12.95 9,10-Secocrosta-5,7,10(19)-triene-1,3-diol, 25-[(trimethylsilyl)oxy]-, (3.beta.,5Z,7E)-
32	13.642	4283172	2.65	33.94 1,1,1,3,5,7,7,7-Octamethyl-3,5-bis(trimethylsilyloxy)tetrasiloxane
33	14.125	6127629	3.79	36.72 2-(2,4,4,6,6,8,8,8)-Heptamethyltetrasiloxan-2'-oxy)-2,4,4,6,6,8,8,10,10-nonamethylecy
34	14.725	2486308	1.54	18.09 2,2,18,18-TETRAMETHYL-3,6,10,13,17-PENTAOXA-2,18-DISILANE ONADECAN
35	15.025	1825178	1.13	15.34 1,4-Bis(trimethylsilyl)benzene
36	15.325	1755250	1.09	17.51 METHYL (2E,7Z)-10-(TRIMETHYLSILYL)-2,7-UNDECADIENOATE
37	15.558	1272363	0.79	13.35 ALPHA-D-GALACTOPYRANOSIDE, 1-METHOXY-1-METHYLETHYL 6-BROM
38	15.992	1620819	1.00	15.09 1H-PURIN-6-AMINE, [(2-FLUOROPHENYL)METHYL]-
39	16.295	2478647	1.53	16.17 1,2-BENZENEDICARBOXYLIC ACID, BIS(2-METHYLPROPYL) ESTER
40	16.825	2809969	1.74	36.57 Glutaric acid, cyclohexylmethyl 2-fluoroethyl ester
41	17.225	810571	0.50	13.01 1-PENTALENECARBOXYLIC ACID, OCTAHYDRO-3-METHYL-, METHYL ESTER
42	17.576	1147035	0.71	19.36 1,1,3,3,5,5,7,7,9,9,11,11,13,13,15,15-HEXADECAMETHYLOCTASILOXANE #
43	17.892	1140209	0.71	15.37 Heptasiloxane, 1,1,3,3,5,5,7,7,9,9,11,11,13,13-tetradecamethyl-
44	18.353	1850969	1.15	31.87 HEXADECANOIC ACID
45	18.858	1044051	0.65	23.02 Nonadecanoic acid, ethyl ester
46	19.913	1450122	0.90	34.56 Bis(pentamethylcyclotrisiloxyl)hexamethyltrisiloxane
47	20.154	363974	0.23	8.37 Heptasiloxane, hexadecamethyl-
48	20.445	694901	0.43	14.12 SILIKONFETT SE30 (GREVELS)
49	20.825	948732	0.59	24.15 Pyridine, 3,5-dichloro-, 1-oxide
50	21.125	751354	0.46	17.28 2-(3-HYDROXYPROPYL)BENZALDEHYDE
51	21.725	1742134	1.08	36.17 [1,1'-Bicyclopropyl]-2-octanoic acid, 2'-hexyl-, methyl ester
52	22.038	1122675	0.69	17.39 BENZENEACETIC ACID, ALPHA,3,4-TRIS[(TRIMETHYLSILYL)OXY]-, TRIME
53	22.835	3185087	1.97	44.31 Cyclohexane, 1,3,5-triphenyl-
54	23.769	877056	0.54	29.30 Heptasiloxane, hexadecamethyl-
55	25.152	457697	0.28	24.27 1H-PURIN-6-AMINE, [(2-FLUOROPHENYL)METHYL]-
56	25.592	44142	0.03	7.70 Dimethylmalonic acid, isobutyl 2-octyl ester
57	25.892	107654	0.07	12.76 9,10,12,12,12,14,14,16,16,18,18,20,20-ICOSAMETHYLCYCLODECAS
58	26.296	414482	0.26	10.18 2,2,4,4,6,6,8,8,10,10,12,12,14,14,16,16,18,18,20,20-ICOSAMETHYLCYCLODECAS
59	26.697	393519	0.24	13.63 SILIKONFETT SE30 (GREVELS)
60	27.025	328187	0.20	12.87 Octasiloxane, 1,1,3,3,5,5,7,7,9,9,11,11,13,13,13,15,15-hexadecamethyl-
61	27.482	666016	0.41	10.29 1,2-BENZENEDICARBOXYLIC ACID
62	28.000	493314	0.31	17.18 1,1,3,3,5,5,7,7,9,9,11,11,13,13,15,15-HEXADECAMETHYLOCTASILOXANE #
63	28.511	1681810	1.04	13.41 Cyclohexane, 1,3,5-triphenyl-
64	29.258	1128203	0.70	28.24 SILIKONFETT SE30 (GREVELS)
65	29.825	1752052	1.08	24.50 Heptasiloxane, hexadecamethyl-
66	30.432	800514	0.50	15.23 SILIKONFETT SE30 (GREVELS)
67	30.758	1137080	0.70	20.95 Methyl 2-chloro-5-aziridinophene-3-carboxylate
68	30.958	628658	0.39	11.49 D-NXYLITOL, PENTAACETATE
69	32.014	5108831	3.16	53.38 1H-CYCLOPENTA[A]PENTALEN-7-OL, DECAHYDRO-3,3,4,7A-TETRAMETHYL
70	32.495	2552264	1.58	15.63 2-(4-ETHYL-2'-OXAOCYL)THIIRANE
71	32.625	701233	0.43	5.66 1-Monolinoleoylglycerol trimethylsilyl ether
72	33.169	4962405	3.07	35.67 SILICONE OIL
73	33.785	4834014	2.99	22.46 2,6,10,14,18,22-Tetracosahexaene, 2,6,10,15,19,23-hexamethyl-, (all-E)-
74	33.958	2704032	1.67	18.12 BIS-TMS ETHER OF 1-O-HEPTADECYLGLYCEROL
75	34.701	6966088	4.31	33.20 SILICONE OIL
76	34.958	2255632	1.40	9.17 1,11-Undecanediol, 2TMS derivative
77	35.235	9527090	5.90	37.78 1-Dimethyl(3-chloropropyl)silyloxyoctane
78	35.792	5844965	3.62	25.34 BIS(2-ISOPROPYL-5-METHYLCYCLOHEXYL)(METHYL)PHOSPHINE
79	36.154	4439920	2.75	18.97 2-METHYL-3-(4-HYDROXY-2-METHYL-1-BUTENYL)CYCLOPENTANONE
80	36.560	4603978	2.85	21.06 9,19-Cyclolanostan-3-ol, acetate, (3.beta.)-
81	36.892	6046424	3.74	27.13 1,1'2,1'-Terphenyl, 4'-phenyl-
82	37.550	3582111	2.22	20.81 Stigmasta-5,22-dien-3-ol, acetate, (3.beta.,22Z)-
83	37.792	1334954	0.83	7.86 Androst-5-en-4-one
84	37.892	1396997	0.86	7.79 9,9-Dimethoxybicyclo[3.3.1]nona-2,4-dione
85	38.403	5768105	3.57	29.31 CHOLESTA-4,6-DIEN-3-OL, BENZOATE, (3.BETA.)-
86	38.592	1878260	1.16	9.84 Succinic acid, 2-ethoxyethyl pentadecyl ester
87	38.857	6039449	3.74	25.98 beta-Sitosterol acetate
88	39.539	6189876	3.83	29.78 CHOLEST-5-EN-3-YL (9Z)-9-OCTADECENOATE #
89	39.944	3096347	1.92	20.03 4H-1-BENZOPYRAN-4-ONE, 2-(3,4-DIMETHOXYPHENYL)-3,5-DIHYDROXY-7,7
90	40.225	1494721	0.93	11.19 Oxiranododecanoic acid, 3-octyl-, cis-
91	40.429	2010343	1.24	17.23 DODECANOIC ACID, 1,2,3-PROPANETRIYL ESTER
92	40.879	3811418	2.36	36.73 4-Nitrophenyl laurate
		161581778	100.00	

# DATA REPORT GCMS-QP2010 ULTRA SHIMADZU

Sample Information

Analyzed by	:	Admin
Analyzed	:	18/10/2022 2:22:12 PM
Sample Type	:	Unknown
Level #	:	1
Sample Name	:	A3_
Sample ID	:	
IS Amount	:	[1]-1
Sample Amount	:	1



Peak#	R.Time	Area	Area%	A/H Name
1	3.872	199782	0.48	6.26 2,4-HEXADIENOIC ACID, (E,E)-
2	4.170	148403	0.36	4.92 2,4-Dihydroxy-2,5-dimethyl-3(2H)-furan-3-one
3	5.112	853132	2.06	11.82 BENZENEACETALDEHYDE
4	5.292	196640	0.48	5.30 2-(3-OXO-2-PENT-2-ENYL-CYCLOPENTYL)-ACETAMIDE
5	5.726	282658	0.68	12.60 2,5-Dimethyl-4-hydroxy-3(2H)-furanone
6	5.817	70984	0.17	5.25 MALONIC ACID, 6-HEPTYNYL-
7	6.210	172833	0.42	13.26 Thymine
8	6.752	6329287	15.30	15.98 4H-Pyran-4-one, 2,3-dihydro-3,5-dihydroxy-6-methyl-
9	10.326	83860	0.20	10.58 8,11,14-Eicosatrienoic acid, methyl ester, (Z,Z,Z)-
10	12.392	111601	0.27	18.06 Propionic acid, 2-(ethylthio)-, ethyl ester
11	12.783	178057	0.43	12.70 OCTADECANOIC ACID, ETHYL ESTER
12	13.351	79770	0.19	9.79 MALONIC ACID, 6-HEPTYNYL-
13	13.775	72401	0.17	7.28 2-(2-Methoxyethyl)-1-heptanol, TMS derivative
14	14.921	553662	1.34	12.79 1,4-diazabicyclo[4.3.0]nonan-2,5-dione, 3-methyl
15	15.261	154349	0.37	7.40 1,4-diazabicyclo[4.3.0]nonan-2,5-dione, 3-methyl
16	15.668	3487120	8.43	21.55 Pyrrolol[1,2-a]pyrazine-1,4-dione, hexahydro-
17	16.083	1111018	2.69	11.29 Cyclo(L-prolyl-L-valine)
18	18.100	196975	0.48	8.71 Pyrrolol[1,2-a]pyrazine-1,4-dione, hexahydro-3-(2-methylpropyl)-
19	18.353	281803	0.68	14.22 Tricosanoic acid, pentyl ester
20	18.866	94097	0.23	5.12 HEPTADECANOIC ACID, ETHYL ESTER
21	19.739	118101	0.29	8.97 Cyclopropanecarboxamide, N-cyclohexyl-
22	21.600	203145	0.49	13.64 Butyramide, 2-bromo-N-hexyl-
23	23.541	123526	0.30	8.50 3,6-DIISOBUTYL-2,5-PIPERAZINEDIONE #
24	23.853	1235766	2.99	17.03 2,5-Piperazinedione, 3,6-bis(2-methylpropyl)-
25	24.125	267162	0.65	6.93 Pyrimidine-2,4,6(1H,3H,5H)-trione, 5-octanoyl-
26	24.312	916613	2.22	15.20 Pyrrolol[1,2-a]pyrazine-1,4-dione, hexahydro-3-(2-methylpropyl)-

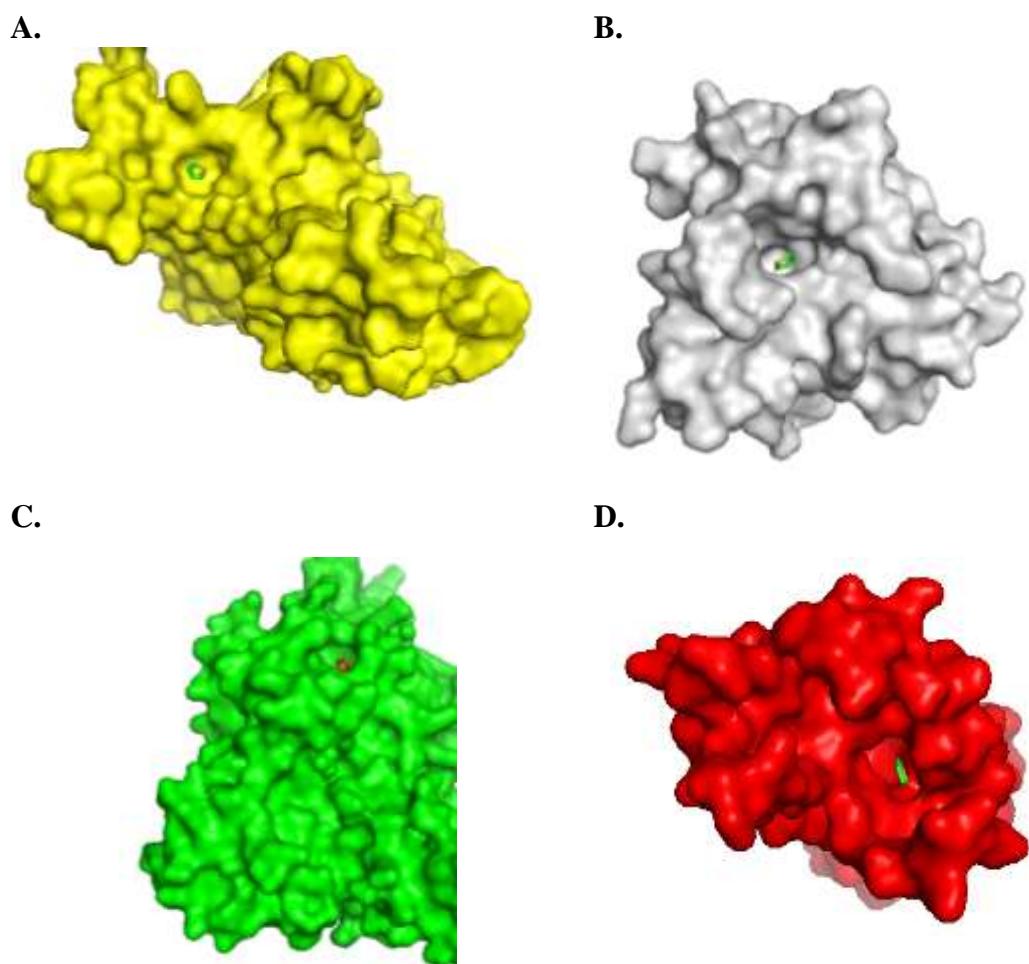
Peak#	R.Time	Area	Area%	A/H	Name
27	24.575	147664	0.36	4.71	3-Methyl-2-(3-methylpentyl)-3-butene-1-ol
28	24.667	129555	0.31	6.06	Pregn-5-en-20-one, 3-hydroxy-
29	24.833	113939	0.28	8.94	7-Azatricyclo-[4.4.0(3.8)]decane, 7-methyl-2-oxo
30	26.039	77397	0.19	8.10	Cyclopentanepropanoic acid, 2-hecyl-,alpha.,hydroxy-,methyl ester
31	30.812	91128	0.22	8.07	PYRAZOLO[5.1-C][1,2,4]TRIAZINE-3-CARBOXYLIC ACID, 4-AMINO-, ETHYL 1
32	32.642	70133	0.17	7.91	1,4-METHANOAZULEN-3-OL, DECAHYDRO-1,5,5,8A-TETRAMETHYL-, [1S-(1,
33	33.542	87892	0.21	10.42	3AH-INDEN-3A-OL, OCTAHYDRO-1,4,4,7A-TETRAMETHYL-, (1ALPHA,3A,8E
34	34.416	70210	0.17	5.82	4H-1-BENZOPYRAN-4-ONE, 2-(3,4-DIMETHOXYPHENYL)-3,5-DIHYDROXY-7-
35	34.558	126361	0.31	10.08	3,7,11,15-Tetrahydronaphthalene-1-ol trimethylsilyl ether
36	34.800	91272	0.22	6.00	6-ETHYL-3-(1-METHYLETHYL)TETRAHYDRO-2H-PYRAN-2-ONE A
37	35.128	989882	2.39	16.61	STIGMASTER-4-EN-3-ONE
38	36.156	152224	0.37	12.48	DECANOIC ACID, SILVER(+) SALT
39	36.400	101991	0.25	6.59	1,9-Nonanediol, acid, bis(DMOX) derivative
40	36.601	229361	0.55	12.59	3,beta.,TRIMETHYLSILOXY-5, alpha.,6, alpha.,-EPOXYCHOLESTANE
41	36.833	83633	0.20	6.84	2-[(ALLYLAMINO)METHYLENE]-5,5-DIMETHYL-1,3-CYCLOHEXANEDIONE #
42	36.956	211355	0.51	11.24	Nonadecanoic acid, 2,2,2-trifluoroethyl ester
43	37.520	467902	1.13	19.16	ETHYL (1S,6S)-6-(BUT-3-ENYL)-3-OXOBICYCLO[3.3.0]OCT-4-ENE-1-CARBOX
44	37.633	305190	0.74	9.74	9-OCTADECENOIC ACID (Z), 2-[(TRIMETHYLSILYL)OXY]-1-[(TRIMETHYLSI
45	37.946	789070	1.91	12.99	Ds-n-decylsulfone
46	38.636	4722278	11.41	45.05	14-BETA,-H-PREGNA
47	39.100	2265163	5.47	23.32	Ginsenol
48	39.860	5539876	13.39	41.49	Dodecanoic acid, 1,2,3-propanetriyl ester
49	40.304	1101368	2.66	9.57	Tricyclo[4.2.1.0(2.5)]non-7-ene, 3,4-di(tris(trimethylsilyloxy)silyl)-
50	40.594	5890868	14.24	51.34	1,7-Dioxadispiro[4.0.5.3]tetradec-12-ene-11,14-dione, 12-hydroxy-2,2,8,8-tetramethyl-1
		41378657	100.00		

**Lampiran 9.** Hasil Molecular Docking

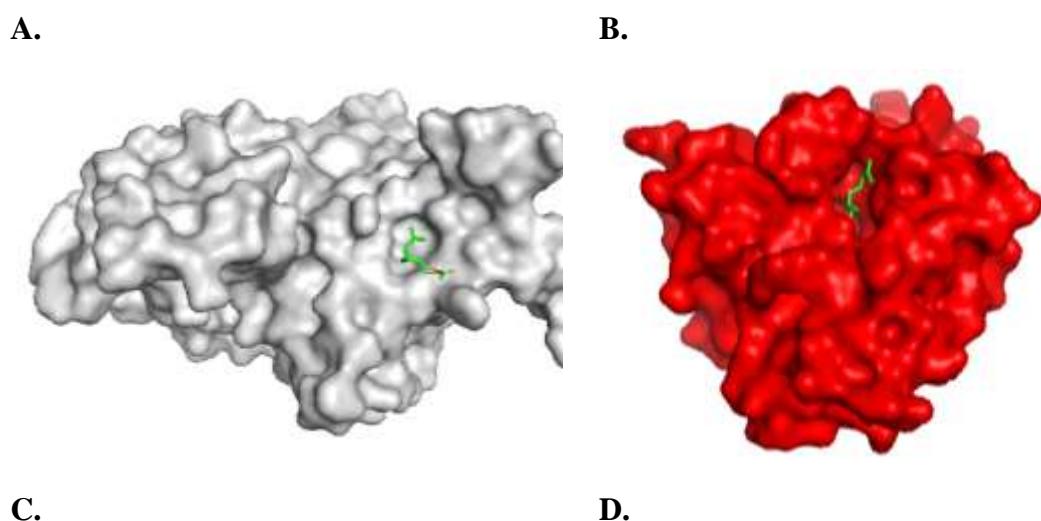
No.	Senyawa	Fungsi	Sumber	Referensi	Docking DHPS	Docking DNA Gyrase	Docking Topoisomerase	Docking Outer Membrane
1	Thiophene	Antimicrobial	<i>Pharmaceutical industry</i>	Roman, 2022	-3,0	-3,0	-3,3	-3,4
2	6-Octen-1-OL, 3,7-Dimethyl-	Antimicrobial	<i>Pelargonium graveolens</i>	Hsouna dan Hamdi, 2012	-5,1	-5,5	-4,6	-5,9
3	1-Decanol, 5,9-dimethyl-	Antimicrobial	Pentanamide	Zhang <i>et al.</i> 2021	-4,7	-5,3	-4,5	-5,7
4	Diisobutyl phthalate	Antioxidant	<i>Botryosphaeria dothidea</i>	Druzian <i>et al.</i> 2020	-5,3	-5,8	-5,4	-7,6
5	Cyclohexane, 1,3,5-triphenyl-	Antimicrobial	<i>Tenebrio molitor</i>	Tsochatzis <i>et al.</i> 2020	-7,4	-7,9	-7,7	-8,2
6	2,4-Dihydroxy-2,5-dimethyl-3(2H)-furan-	Antimicrobial, Antioxidant	Saudi sumra honey	Bazaid <i>et al.</i> 2022	-4,8	-4,9	-5,6	-5,9

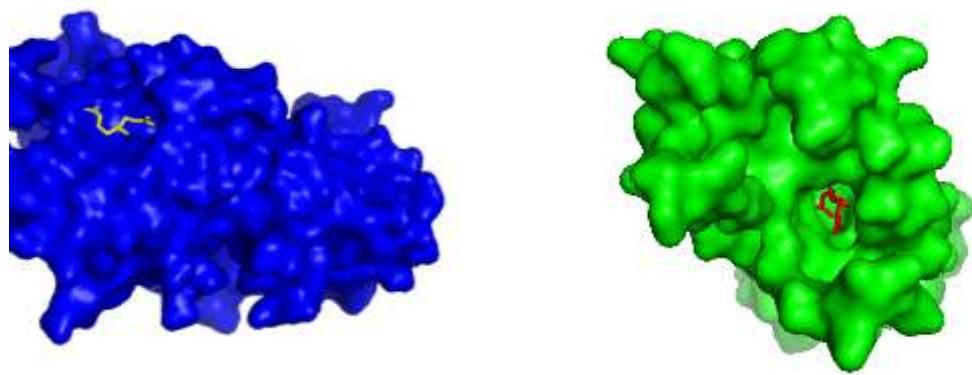
	3-one							
7	4H-Pyran-4-one, 2,3-dihydro-3,5-dihydroxy-6-methyl-	Antimicrobial	<i>Lactobacillus pentosus</i> strain S-PT84	Yap <i>et al.</i> 2021	-5,8	-4,9	-5,3	-5,7
8	Cyclo(L-prolyl-L-valine)	Antimicrobial	<i>Bacillus velezensis</i> RA5401	Rehman <i>et al.</i> 2018	-5,4	-6,9	-5,4	-7,5
9	2,5-Piperazinedione, 3,6-bis(2-methylpropyl)-	Antioxidant	<i>Botryosphaeria dothidea</i>	Druzian <i>et al.</i> 2020	-5,3	-5,9	-5,4	-6,5
10	Stigmast-4-En-3-One	Antimicrobial, Antioxidant	<i>Etlingera elatior</i>	Mohamad <i>et al.</i> 2005	-7,3	-6,0	-6,1	-7,8
11	Sulfamethoxazole (Kontrol)				-6,0	-	-	-
12	Ciprofloxacin (Kontrol)				-	-8,3	-	-
13	Quinolone (Kontrol)				-	-	-9,0	-
14	Penicillins (Kontrol)				-	-	-	-8,2

**Lampiran 10.** Visualisasi Hasil Molecular Docking

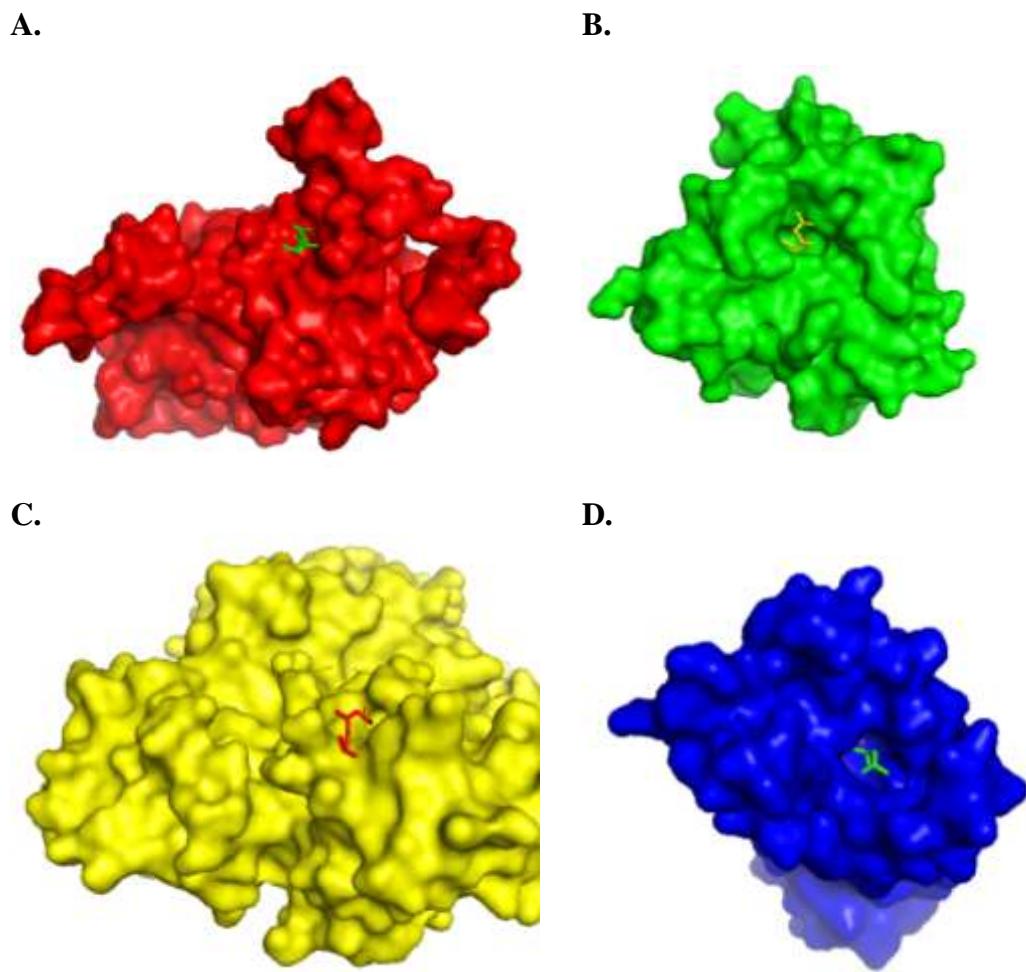


**Gambar 1.** Visualisasi interaksi ligan (Thiophene) – Makromolekul (Reseptor),  
(A) DHPS (Kuning); (B) DNA Gyrase (Putih); (C) Topoisomerase  
(Hijau); (D) Outer Membrane (Merah).

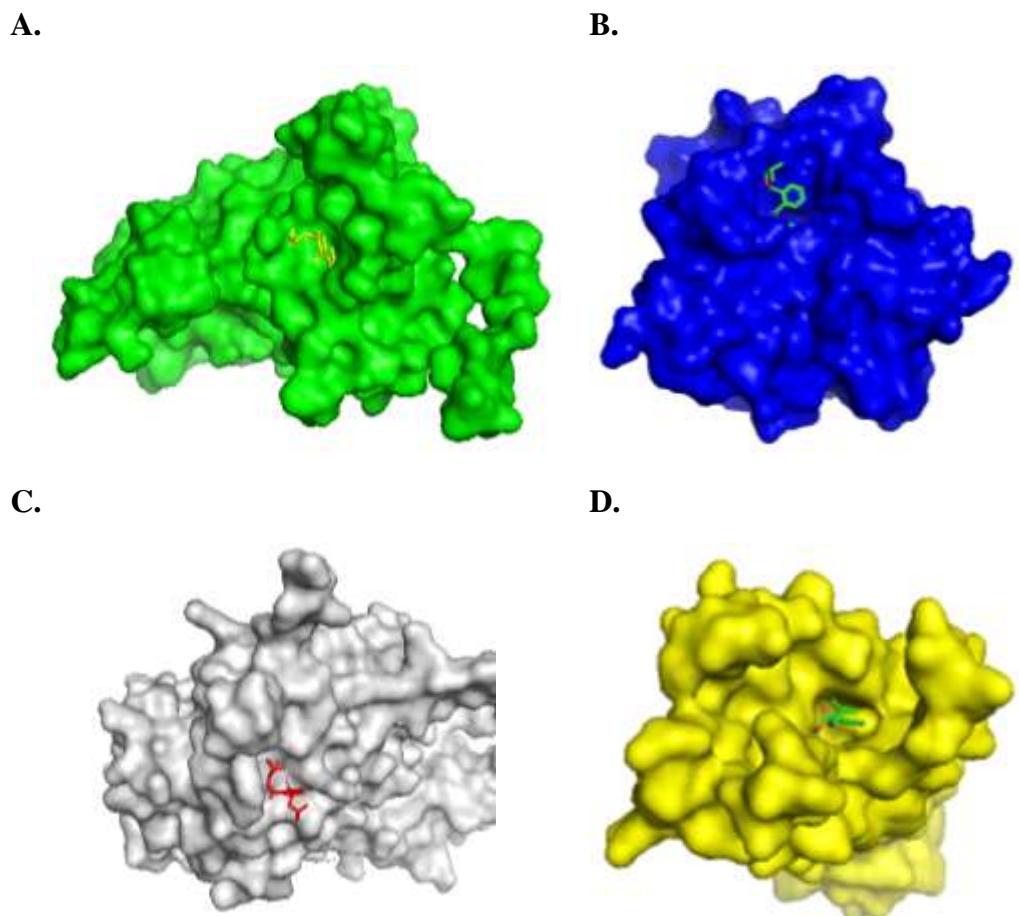




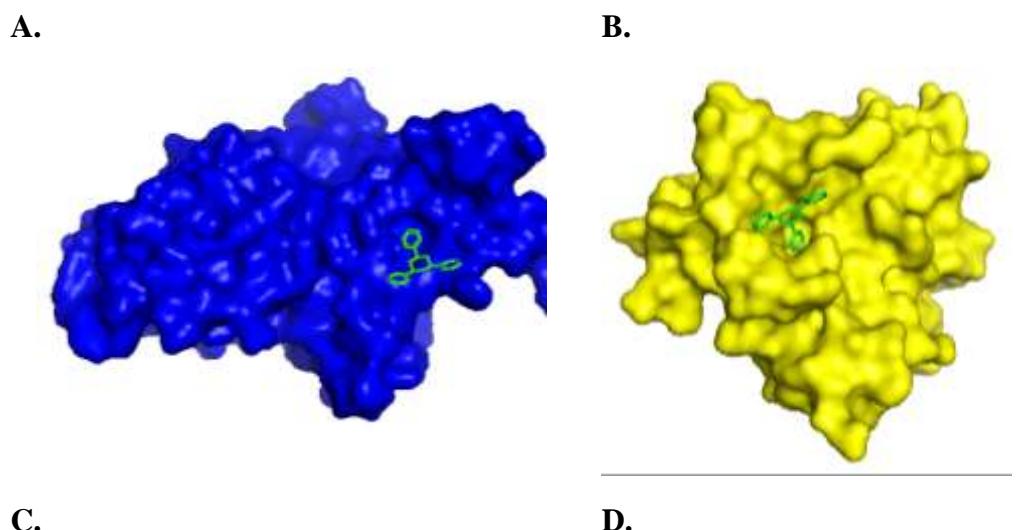
**Gambar 2.** Visualisasi Interaksi Ligan (6-Octen-1-OL, 3,7-Dimethyl-) – Makromolekul (Reseptor), (A) DHPS (Putih); (B) DNA Gyrase (Merah); (C) Topoisomerase (Biru); (D) Outer Membrane (Hijau).

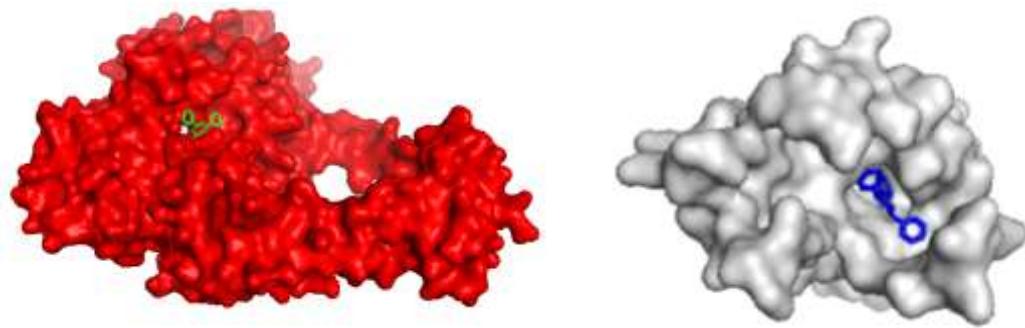


**Gambar 3.** Visualisasi interaksi ligan (1-Decanol, 5,9-dimethyl-) – Makromolekul (Reseptor), (A) DHPS (Merah); (B) DNA Gyrase (Hijau); (C) Topoisomerase (Kuning); (D) Outer Membrane (Biru).

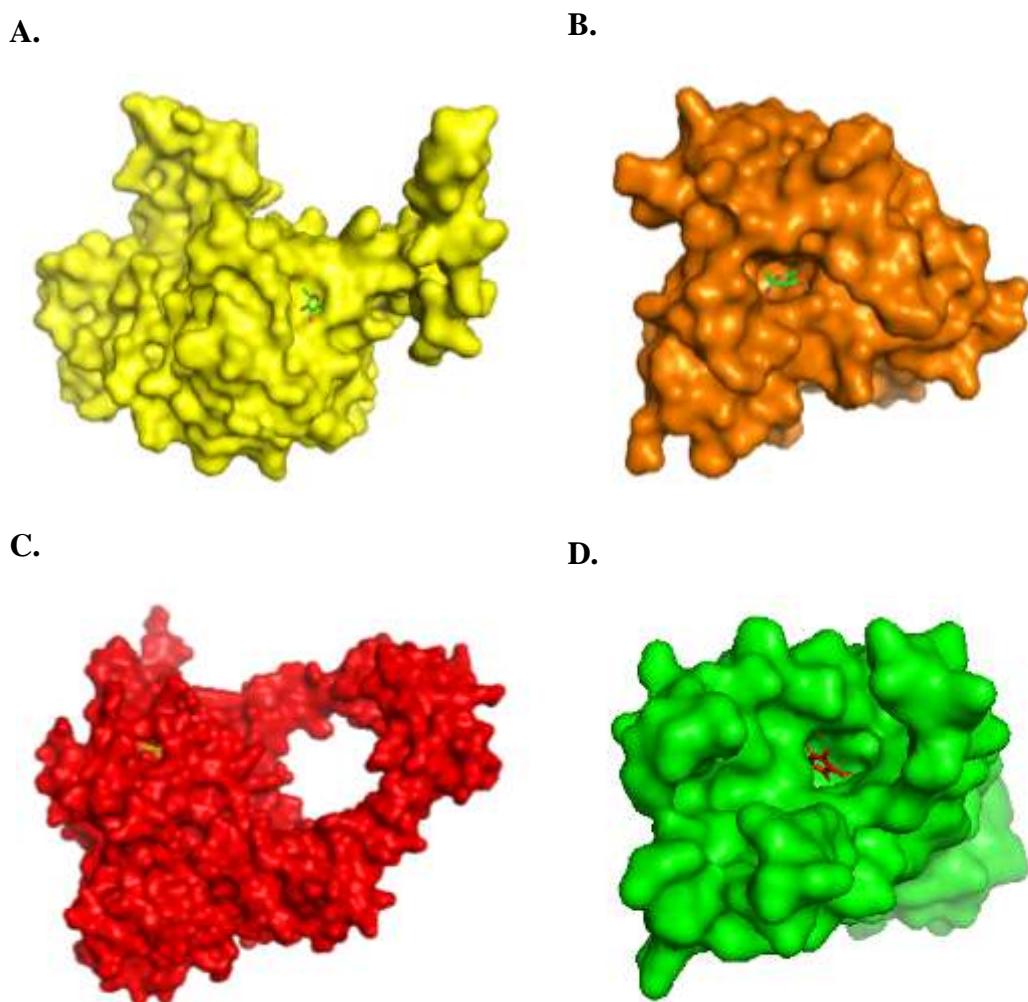


**Gambar 4.** Visualisasi interaksi ligan (Diisobutyl phthalate) – Makromolekul (Reseptor), (A) DHPS (Hijau); (B) DNA Gyrase (Biru); (C) Topoisomerase (Putih); (D) Outer Membrane (Kuning).

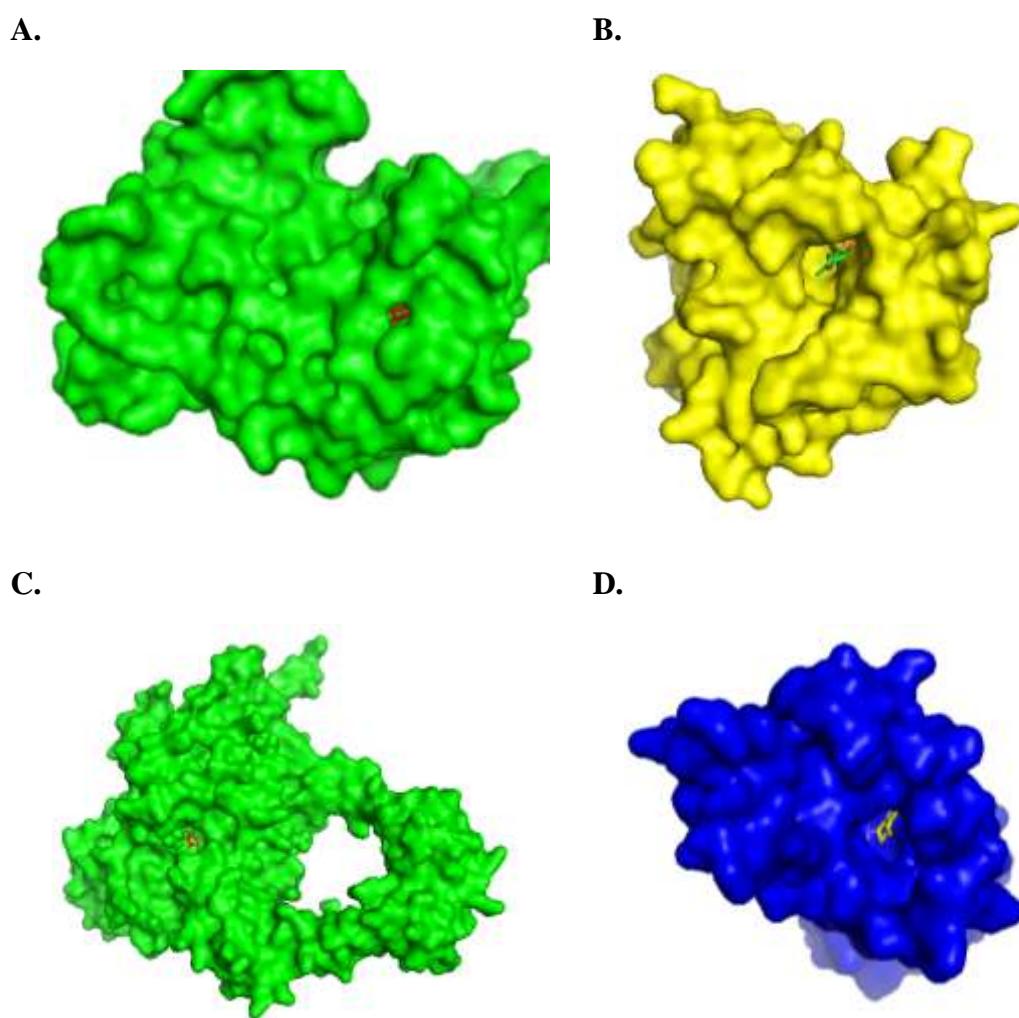




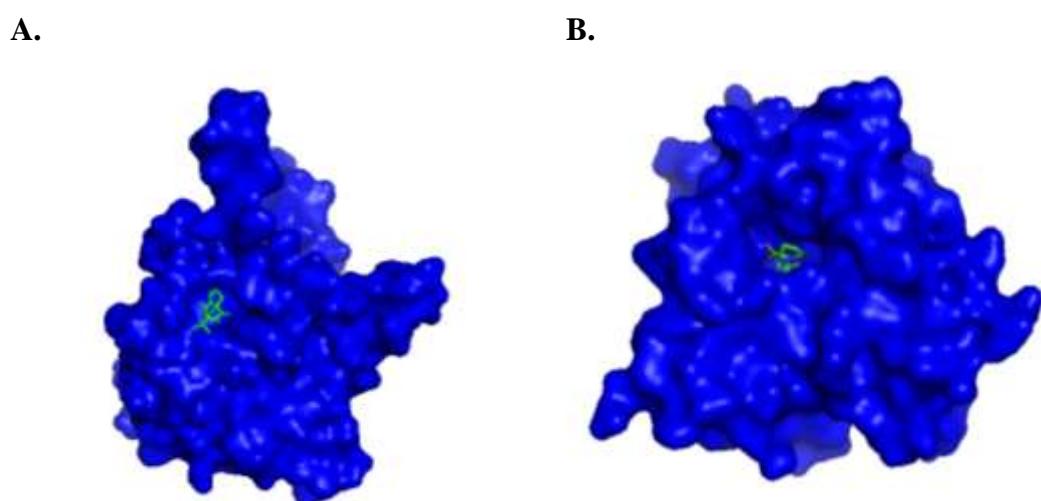
**Gambar 5.** Visualisasi interaksi ligan (Cyclohexane, 1,3,5-triphenyl-) – Makromolekul (Reseptor), (A) DHPS (Biru); (B) DNA Gyrase (Kuning); (C) Topoisomerase (Merah); (D) Outer Membrane (Putih).

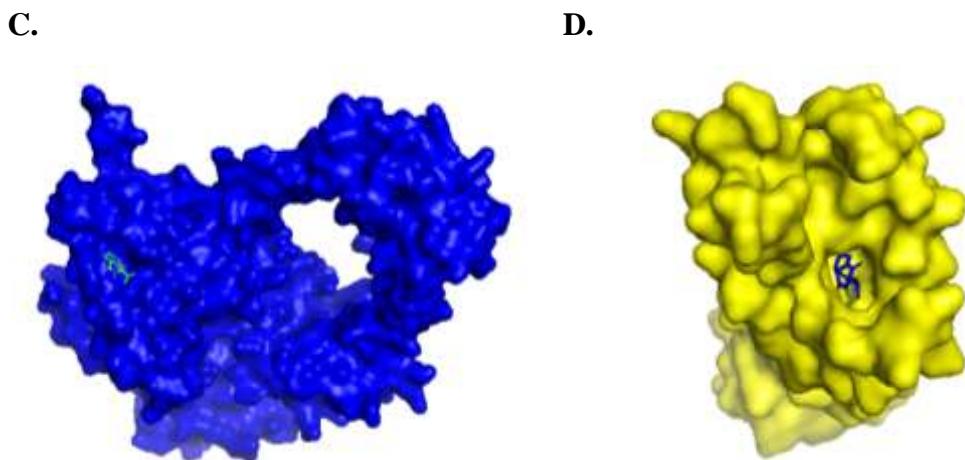


**Gambar 6.** Visualisasi interaksi ligan (2,4-Dihydroxy-2,5-dimethyl-3(2H)-furan-3-one) – Makromolekul (Reseptor), (A) DHPS (Kuning); (B) DNA Gyrase (Orange); (C) Topoisomerase (Merah); (D) Outer Membrane (Hijau).

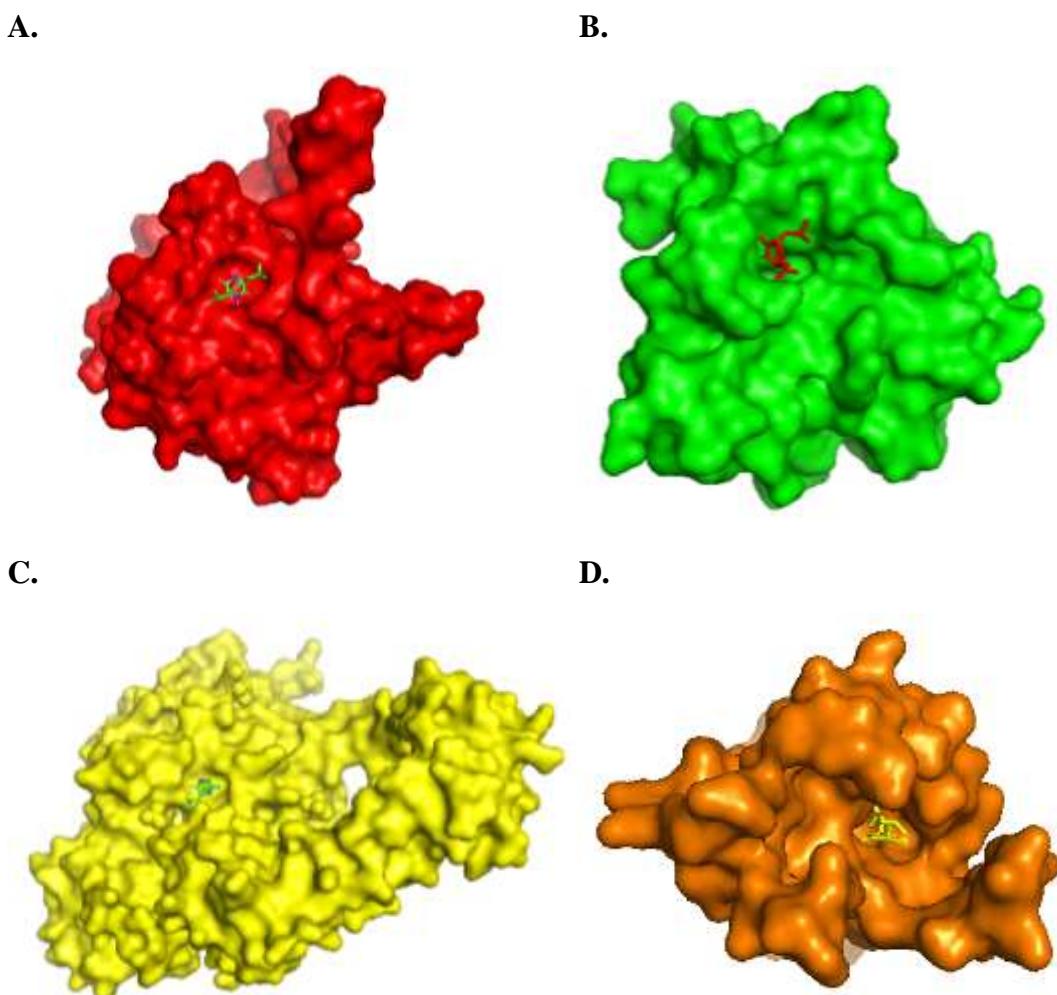


**Gambar 7.** Visualisasi interaksi ligan (4H-Pyran-4-one, 2,3-dihydro-3,5-dihydroxy-6-methyl-) – Makromolekul (Reseptor), (A) DHPS (Hijau); (B) DNA Gyrase (Kuning); (C) Topoisomerase (Hijau); (D) Outer Membrane (Biru).



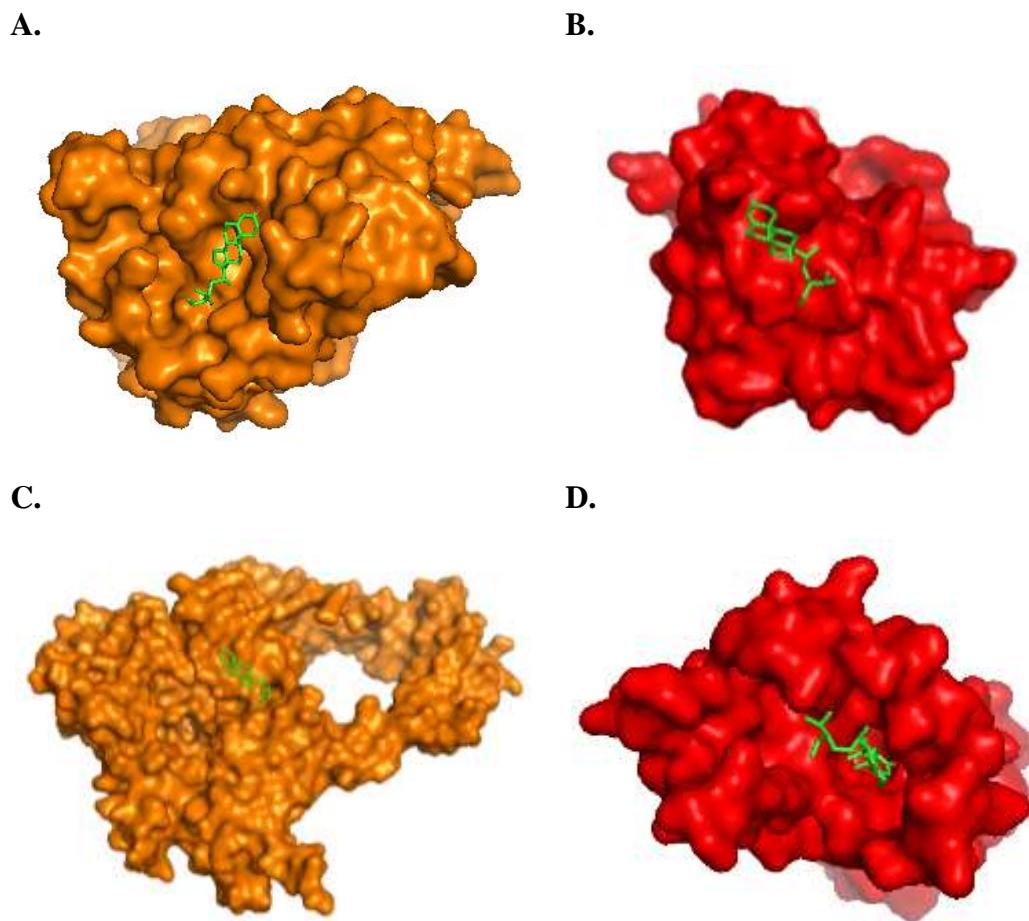


**Gambar 8.** Visualisasi interaksi ligan (Cyclo(L-prolyl-L-valine)) – Makromolekul (Reseptor), (A) DHPS (Biru); (B) DNA Gyrase (Biru); (C) Topoisomerase (Biru); (D) Outer Membrane (Kuning).



**Gambar 9.** Visualisasi interaksi ligan (2,5-Piperazinedione, 3,6-bis(2-methylpropyl))- – Makromolekul (Reseptor), (A) DHPS (Merah); (B)

DNA Gyrase (Hijau); (C) Topoisomerase (Kuning); (D) Outer Membrane (Orange).



**Gambar 10.** Visualisasi interaksi ligan (Stigmast-4-En-3-One) – Makromolekul (Reseptor), (A) DHPS (Orang); (B) DNA Gyrase (Merah); (C) Topoisomerase (Orange); (D) Outer Membrane (Merah).