

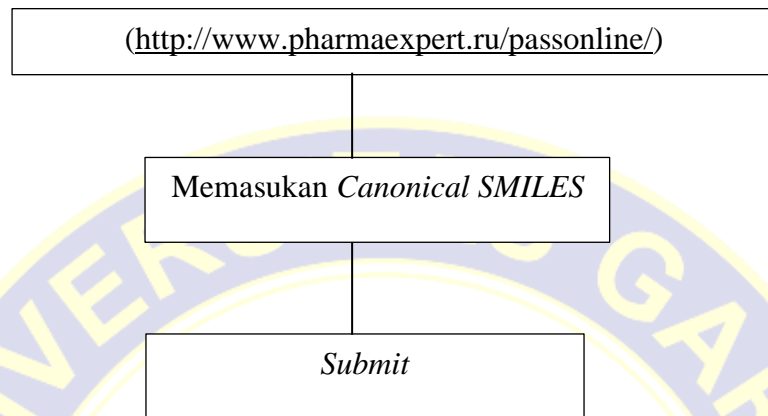
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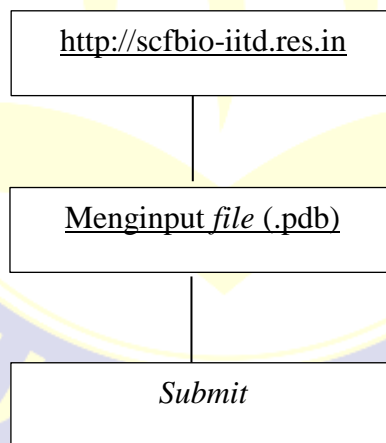
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**LAMPIRAN 1**  
**ALUR PENELITIAN PREDIKSI AKTIVITAS SENYAWA UJI,**  
**ANALISIS FISIKOKIMIA, ANALISIS FARMAKOKINETIKA,**  
**SERTA ANALISIS TOKSISITAS**

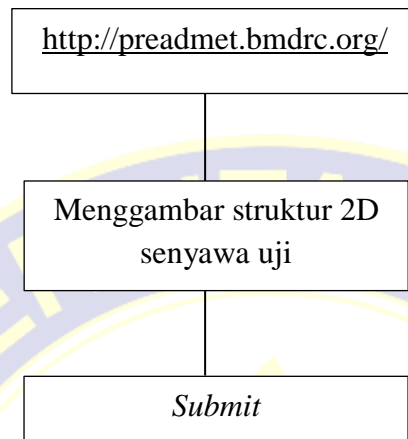


**Gambar VII.1** Prediksi aktivitas senyawa uji

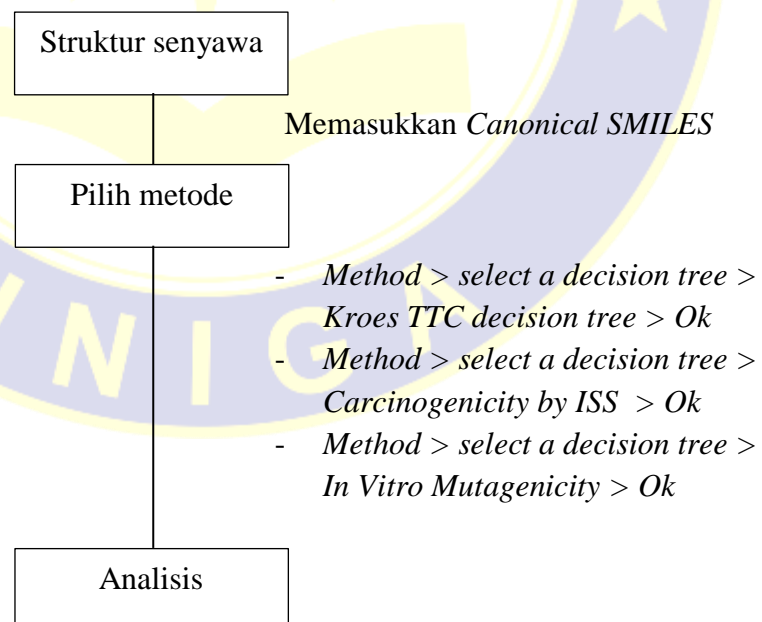


**Gambar VII.2** Analisis fisikokimia berdasarkan  
*Lipinski Rule Of Five*

## LAMPIRAN 1 (LANJUTAN)



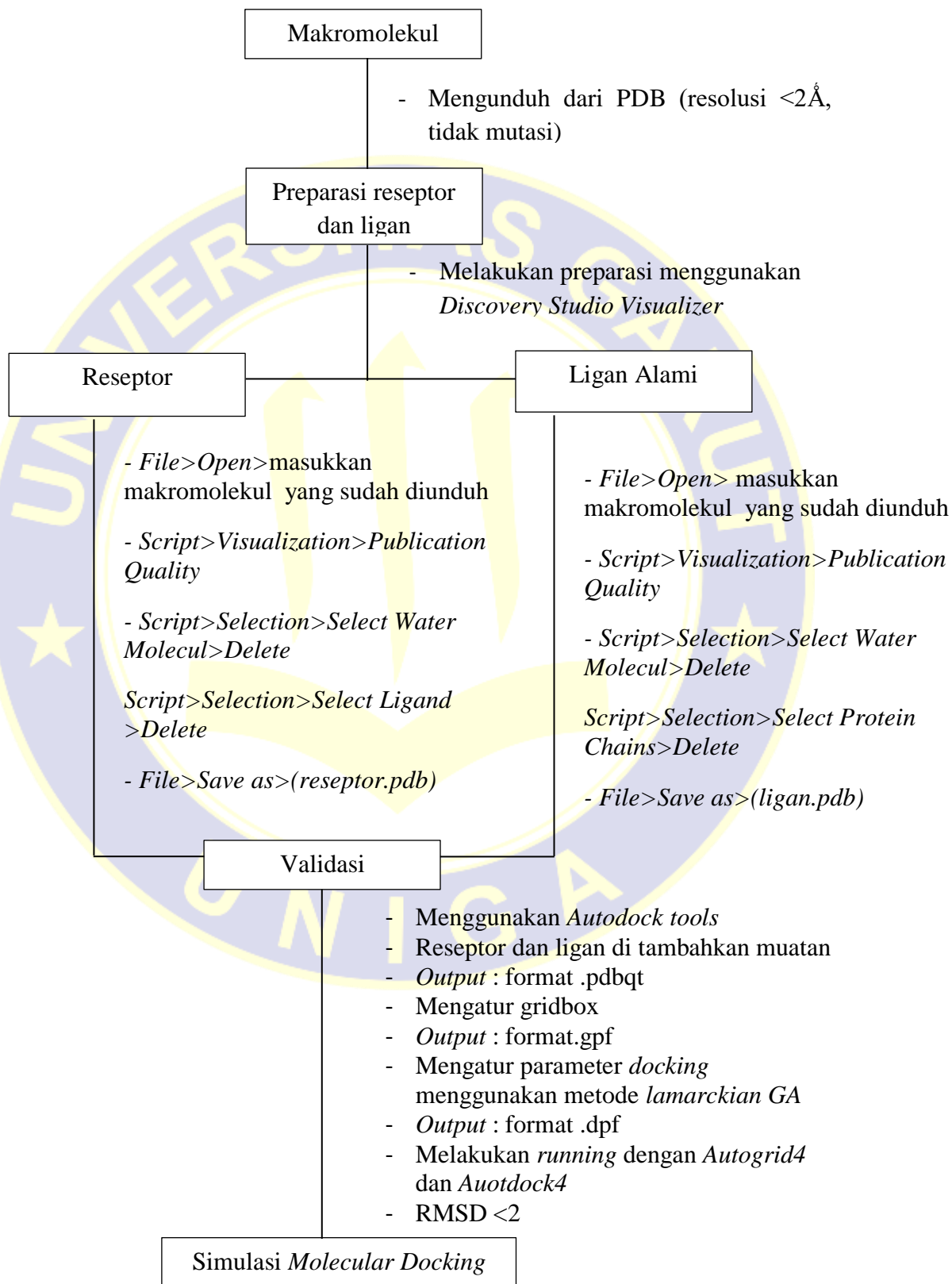
**Gambar VII.3** Analisis farmakokinetik *PreADMET*



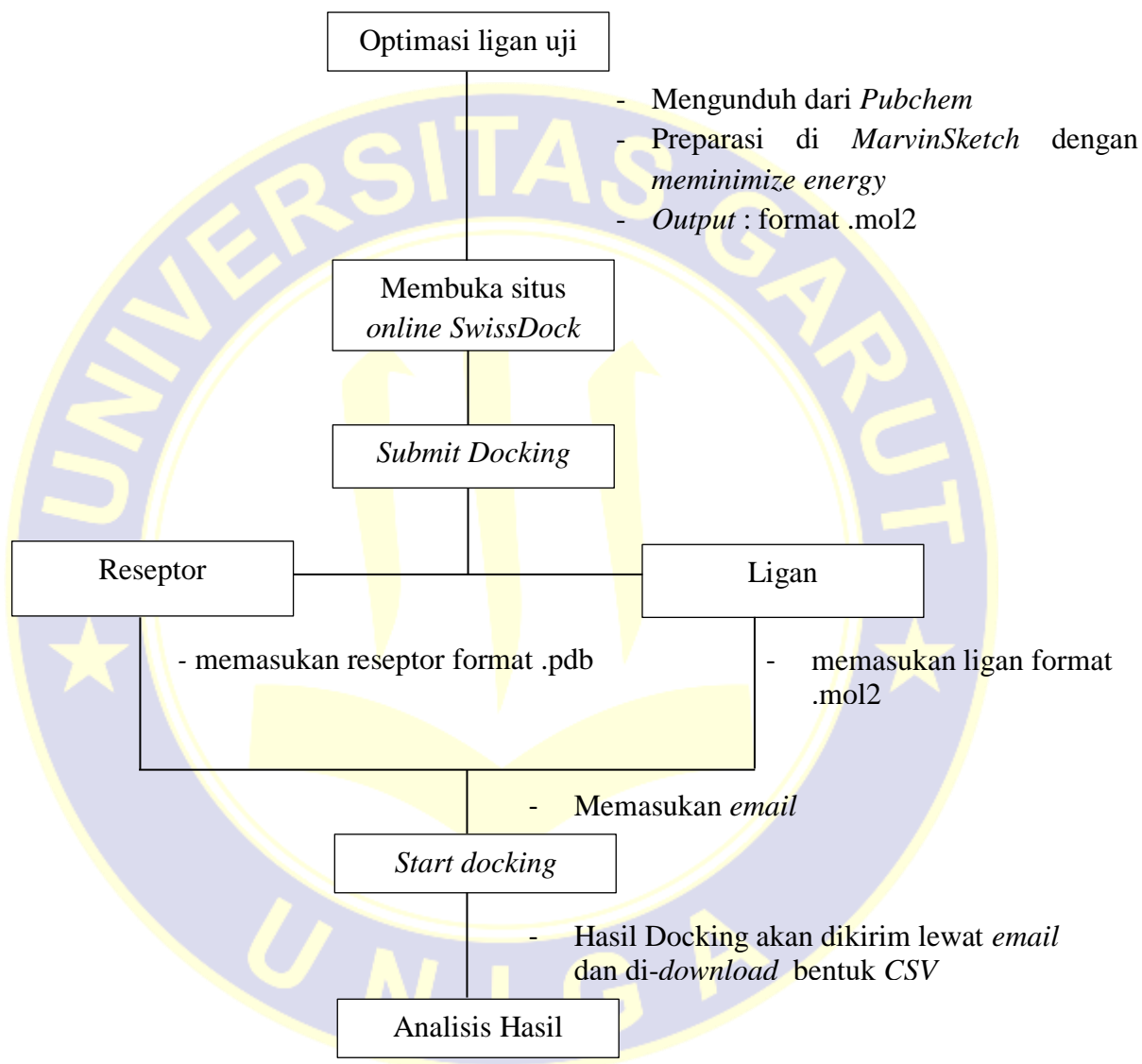
**Gambar VII.4** Analisis toksisitas menggunakan *Toxtree*<sup>®</sup>

## LAMPIRAN 2

### ALUR PENELITIAN SIMULASI *MOLECULAR DOCKING*



## LAMPIRAN 2 (LANJUTAN)



**Gambar VII.5** Skema alur penelitian *molecular docking*

### LAMPIRAN 3 SENYAWA DAN SUMBERNYA

**Tabel VII.1**  
Senyawa dan Sumbernya

No	Nama Senyawa	Sumber
1	Alpha Pinene	Eucalyptus globulus
2	Beta Pinene	Eucalyptus globulus
3	$\alpha$ -Terpineol	Eucalyptus globulus
4	Limonene	Eucalyptus globulus
5	1,8 eucalyptol	Eucalyptus globulus
6	$\gamma$ -terpinene	Eucalyptus globulus
7	Linalool	Eucalyptus globulus
8	Sabinene	Rimpang lempuyang
9	Pinocarveol	Eucalyptus globulus
10	Terpinen-4-ol	Eucalyptus globulus
11	Myrcene	Kulit jeruk siam
12	p-cymene	Rimpang lempuyang
13	Citral	Rimpang jahe
14	Alpha pelandren	Kayu secang
15	Carvacrol	Lallemethia
16	Citronellal	Minyak sereh wangi
17	Citronellol	Minyak sereh wangi
18	Myrtenol	Lallemethia
19	Verbenon	Lallemethia
20	Ledol	Eucalyptus globulus
21	Nerolidol	Eucalyptus globulus
22	Spathulenol	Eucalyptus globulus
23	Beta eudesmol	Eucalyptus globulus
24	Alpha eudesmol	Eucalyptus globulus
25	Farnesol	Rimpang lempuyang
26	Alpha cedrene	Rimpang jahe
27	10(14)-cadinene-4,11-diol	Sinapsis arvensis
28	Costunolide	Tanacethum partenium
29	Germacrane	Teruntun
30	Totarol	Junniper communis
31	Cis-abienol	Abis balsame
32	Pimarol	Gaharu
33	Pimaral	Pinus sylvestris
34	Cembren A	Sinularia fleksibilis
35	Grayanol B	Leicothoe grayan

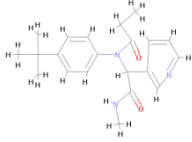
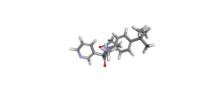
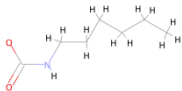
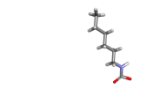
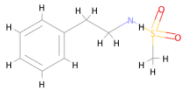
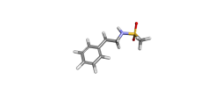
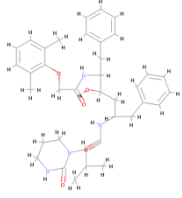
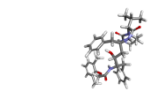
### LAMPIRAN 3 LANJUTAN

**Tabel VII.1**  
Lanjutan

No	Nama Senyawa	Sumber
36	Biformen	Pinus densi flora
37	Podocarpoc acid	Celastrus hipoleucus
38	Ferruginol	Cryptoria japonica
39	Phytol	Asam jawa
40	Gibberelic acid	Lupinus
41	Alpha amyryne	Akar manis
42	Lupeol	Batang deris eliptica
43	Lupenone	Teruntun
44	Betuline	Teruntun
45	Germanicol	Teruntun
46	Cycloartenol	Teruntun
47	Taraxerol	Teruntun
48	Oleanolic acid	Cengkeh
49	Uvaol	Daun cretagus pinatifida
50	Urcolid acid	Axenic eriobotry
51	Tormentic acid	Axenic eriobotry
52	Pomolic acid	R, woodsii dan H. capitata
53	Oleanane	Biji kedelai
54	Celastrol	Batang mangkulitai
55	Salapermic acid	Triterygium wilfordii
56	Mimuscopic acid	Biji mimuscops elengi
57	Maslinic acid	Crategus oxyyacantha
58	Moronic acid	Myrceugenia euosma
59	Nigranoic acid	Schisandra henryi dan propinqua
60	Bevirimat	Syzigium claviflorum
61	Hyptadienic acid	Axenic eriobotrya

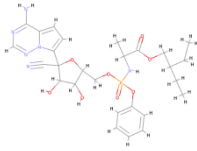
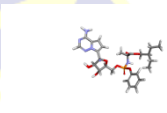
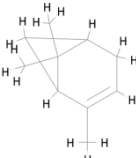

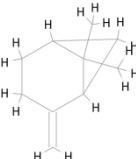

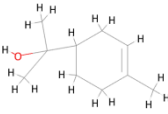

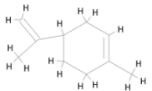

**LAMPIRAN 4**  
**STRUKTUR 2D DAN 3D *NATIVE LIGAND*, LIGAN**  
**PEMBANDING DAN SENYAWA UJI**

**Tabel VII.2**  
 Struktur 2D dan 3D *Native Ligand*, Ligan Pembanding dan Senyawa Uji

No	Native ligand dan senyawa pembeding	Struktur 2D	Struktur3D
1	Native ligan5r14		
2	Native ligan7buy		
3	Native ligan 5r7y		
4	Lovinavir		

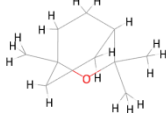

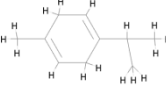

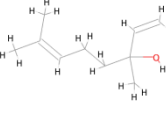

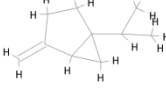

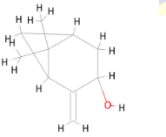

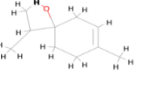

## LAMPIRAN 4 (LANJUTAN)

**Tabel VII.2**  
Lanjutan

No	Native ligand dan senyawa pembanding	Struktur 2D	Struktur 3D
5	Remdesivir		
No	Senyawa uji	Struktur 2D	Struktur 3D
1	Alpha pinen		
2	Beta pinen		
3	$\alpha$ -terpineol		
4	Limonene		

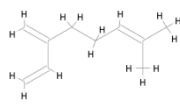

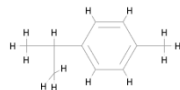

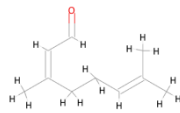

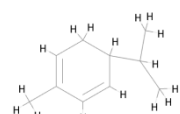

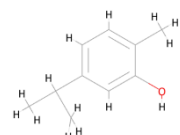

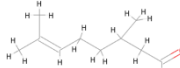

## LAMPIRAN 4 (LANJUTAN)

**Tabel VII.2**  
Lanjutan

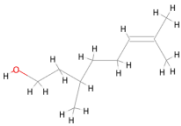

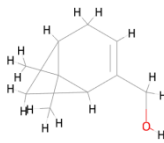

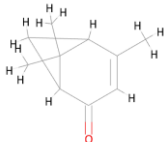
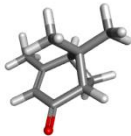
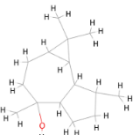

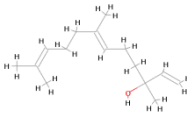

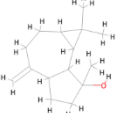

No	Senyawa uji	Struktur 2D	Struktur 3D
5	1,8 eucaliptol / eucaliptol		
6	$\gamma$ -terpinen		
7	Linalool		
8	Sabinene		
9	Pinocarveol		
10	Terpinen-4-ol		

## LAMPIRAN 4 (LANJUTAN)

**Tabel VII.2**  
Lanjutan

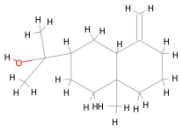

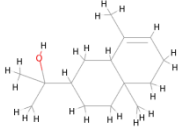

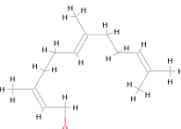

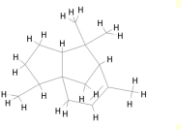
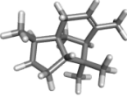
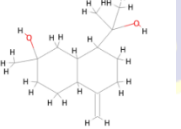

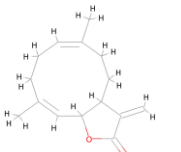
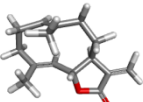
No	Senyawa uji	Struktur 2D	Struktur 3D
11	Myrcene		
12	p-cymene		
13	Citral		
14	Alpha pellandrene		
15	Carvacrol		
16	Citronellal		

**LAMPIRAN 4  
(LANJUTAN)****Tabel VII.2  
Lanjutan**

No	Senyawa uji	Struktur 2D	Struktur 3D
17	Citronellol		
18	Myrtenol		
19	Verbenone		
20	Ledol		
21	Nerolidol		
22	Spathulenol		

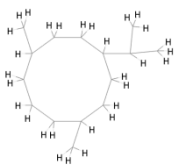
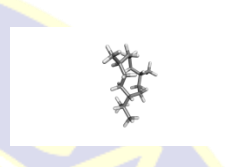
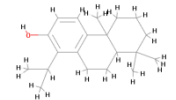
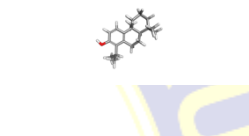
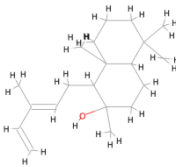
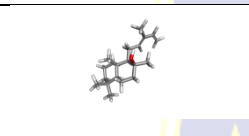
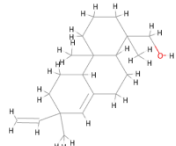
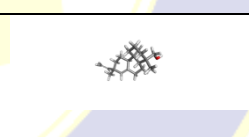
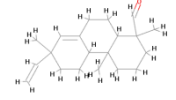
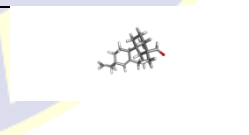

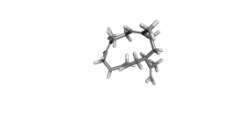
## LAMPIRAN 4 (LANJUTAN)

Tabel VII.2  
Lanjutan

No	Senyawa uji	Struktur 2D	Struktur 3D
23	Beta eudesmol		
24	Alpha eudesmol		
25	Farnesol		
26	Alpha cedrene		
27	10(14)-cadinene-4,11-diol		
28	Costunolide		

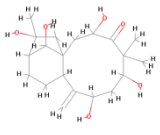

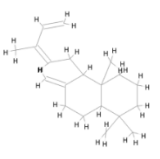
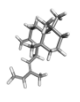
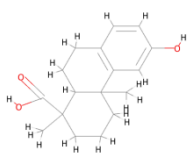

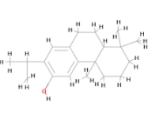

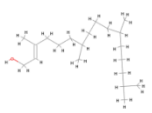

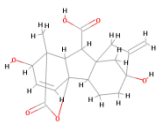

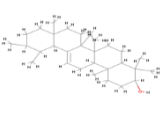

## LAMPIRAN 4 (LANJUTAN)

**Tabel VII.2**  
Lanjutan

No	Senyawa uji	Struktur 2D	Struktur 3D
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30	Totarol		
31	cis-abienol		
32	Pimarol		
33	Pimaral		
34	Cembrene A		

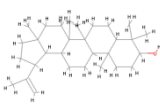

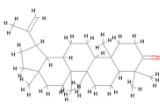

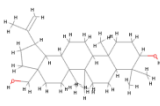

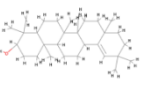

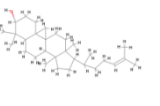

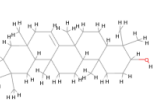

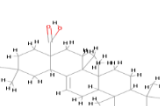

## LAMPIRAN 4 (LANJUTAN)

Tabel VII.2  
Lanjutan

No	Senyawa uji	Struktur 2D	Struktur 3D
35	Grayanol B		
36	Biformen		
37	Podocarpic acid		
38	Ferruginol		
39	Phytol		
40	Gibberellic acid		
41	Alpha amyrine		

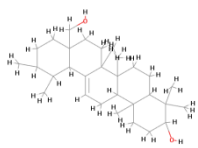

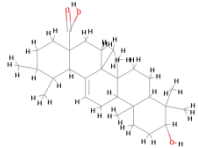

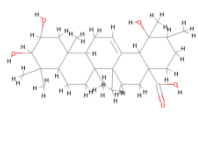

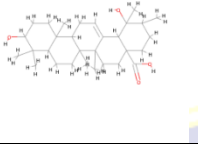

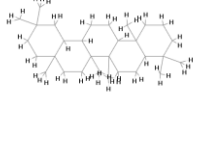
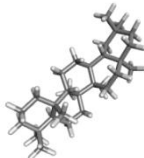
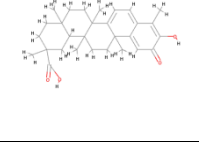

## LAMPIRAN 4 (LANJUTAN)

**Tabel VII.2**  
Lanjutan

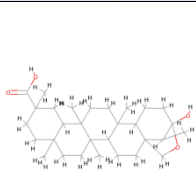

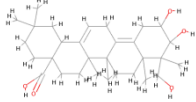

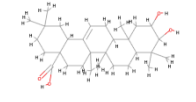

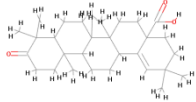

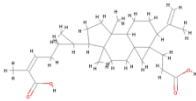

No	Senyawa uji	Struktur 2D	Struktur 3D
42	Lupeol		
43	Lupenone		
44	Betulin		
45	Germanicol		
46	Cycloartenol		
47	Taraxerol		
48	Oleanolic acid		

## LAMPIRAN 4 (LANJUTAN)

**Tabel VII.2**  
Lanjutan

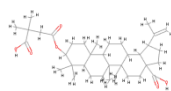

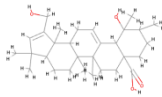

No	Senyawa uji	Struktur 2D	Struktur 3D
49	Uvaol		
50	Urcolid acid		
51	Tormentic acid		
52	Pomolic acid		
53	Oleanane		
54	Celastrol		

**LAMPIRAN 4  
(LANJUTAN)****Tabel VII.2  
Lanjutan**

No	Senyawa uji	Struktur 2D	Struktur 3D
55	Salaspermic acid		
56	Mimuscopic acid		
57	Maslinic acid		
58	Moronic acid		
59	Nigranoic acid		

## LAMPIRAN 4 (LANJUTAN)

Tabel VII.2  
Lanjutan

No	Nama Senyawa	Struktur 2D	Struktur 3D
60	Bevirimat		
61	Hyptadienic acid		

## LAMPIRAN 5 SITUS DAN APLIKASI

The screenshot shows the Way2Drug website header with the logo and tagline "Understanding Chemical-Biological Interactions". Below the header is a navigation menu with links for Home, Definitions, Products, Services, FAQ, and Contacts. The main content area features the "PASS online" logo in large blue letters, with the text "Better solutions for your research and development" and "It is easy to use" below it. A "GO for prediction" button is also visible.

### Get more information

about **biological potential** of your compounds.

PASS Online predicts over 4000 kinds of biological activity, including pharmacological effects, mechanisms of action, toxic and adverse effects, interaction with metabolic enzymes and transporters, influence on gene expression, etc.

**Gambar VII.6** Tampilan situs *PassOnline*

The screenshot shows a web application titled "Lipinski Rule of Five" from the Supercomputing Facility for Bioinformatics & Computational Biology, IIT Delhi. The page explains the rule and lists five criteria: 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, and Molar refractivity should be between 40-130. It includes a form for inputting a PDB file and a pH value (set to 7). The page also contains a "Submit" button and a "How to Use the Tool" section with instructions on file formats.

**Gambar VII.7** Tampilan situs *Lipinski Rule of Five*

## LAMPIRAN 5 (LANJUTAN)

The screenshot shows the PreADMET website homepage. At the top, there is a navigation bar with links for MDL mol and sdf file, Molecular descriptors, Druglikeness, ADME Prediction, Toxicity prediction, Log In, and Register. The PreADMET logo is prominently displayed on the left, and contact information (+82 2 393 9550-1, webmaster@bmdrc.kr) and the address (B138A, YONSEI ENGINEERING RESEARCH COMPLEX, YONSEI UNIVERSITY, SEOUL, REPUBLIC OF KOREA) are on the right. A secondary navigation bar includes Home, About, Druglikeness, ADME, Toxicity, Community, and Commercial. The main content area features a 'Welcome to the PreADMET' section with a brief description of the application. Below this are three main service categories: Drug-Likeness Prediction (Lipinski's rule, lead-like rule, Drug DB like rule), ADME Prediction (caco-2, MDCK, BBB, HIA, plasma protein binding and skin permeability data), and Toxicity Prediction (Ames test and rodent carcinogenicity assay). A 'Lastest News' sidebar on the right lists recent updates, including the addition of G-SFED and Human Nephrotoxicity models in August 2017, the upcoming release of PreADMET Ver 2.1 in January 2015, and mentions of the site's popularity on Cheminformatics.org and a new Windows version release in October 2009.

**Gambar VII.8** Tampilan situs *PreADMET*

The screenshot displays the Protein Data Bank (PDB) website homepage. The top navigation bar includes links for RCSB PDB, Deposit, Search, Visualize, Analyze, Learn, and More, along with a 'MyPDB' button. The main header features the RCSB PDB logo and the text '163949 Biological Macromolecular Structures Enabling Breakthroughs in Research and Education'. A search bar with the placeholder 'Enter search term(s)' and a search icon is present. Below the search bar, there are links for 'Advanced Search' and 'Browse Annotations'. The footer contains logos for PDB-101, PDB, EMDatabank, and Worldwide Protein Data Bank Foundation, along with social media icons for Facebook, Twitter, and YouTube.

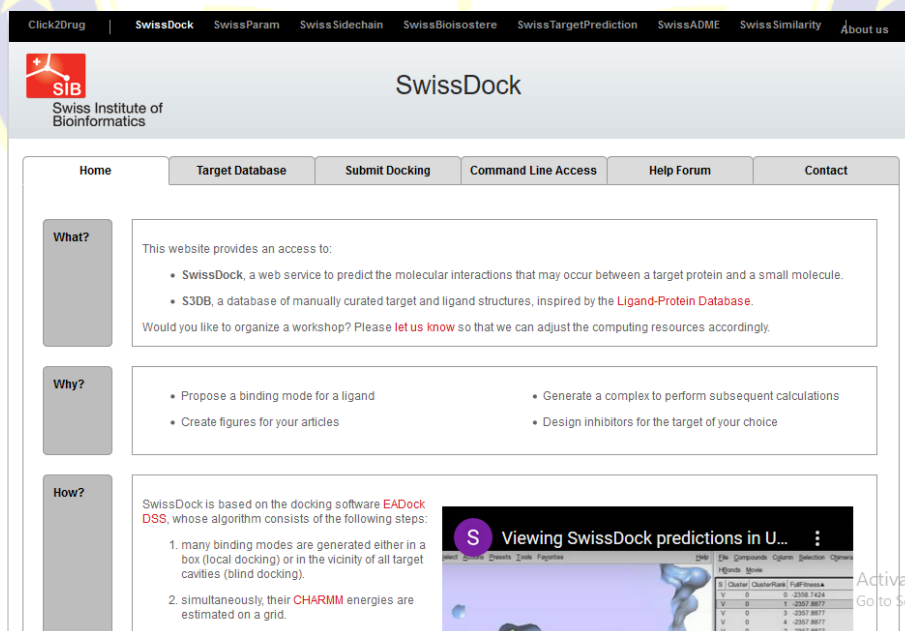
This screenshot shows a featured article on the Protein Data Bank website. The article is titled 'A Structural View of Biology' and is part of the 'May Molecule of the Month' series. The text states: 'This resource is powered by the Protein Data Bank archive-information about the 3D shapes of proteins, nucleic acids, and complex assemblies that helps students and researchers understand all aspects'. To the right of the text is a 3D molecular model of a protein structure, rendered in green and blue.

**Gambar VII.9** Tampilan situs *Protein Data Bank (PDB)*

## LAMPIRAN 5 (LANJUTAN)

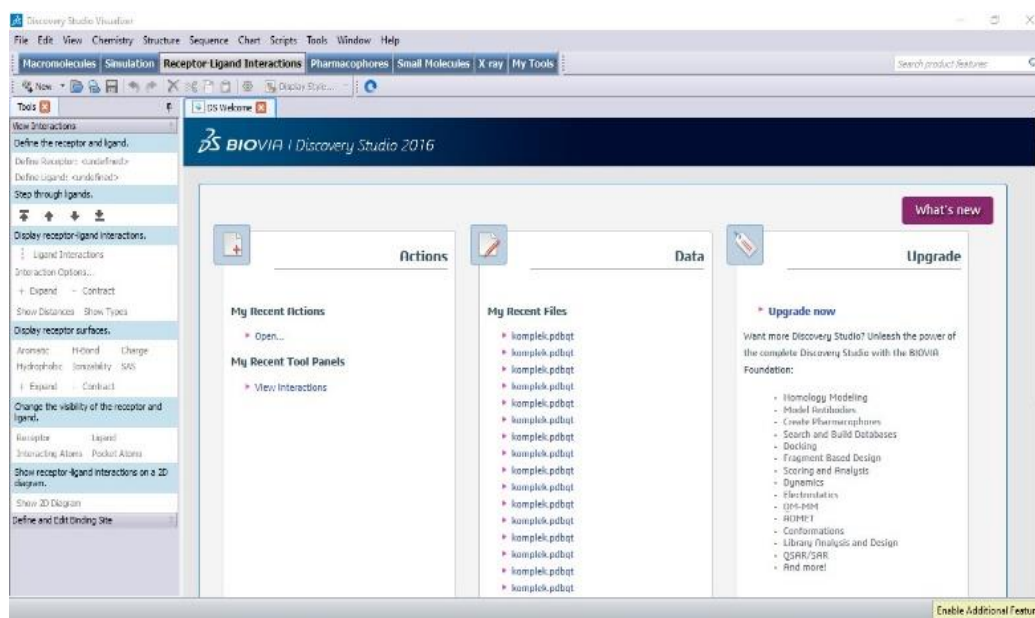


Gambar VII.10 Tampilan situs *PubChem*

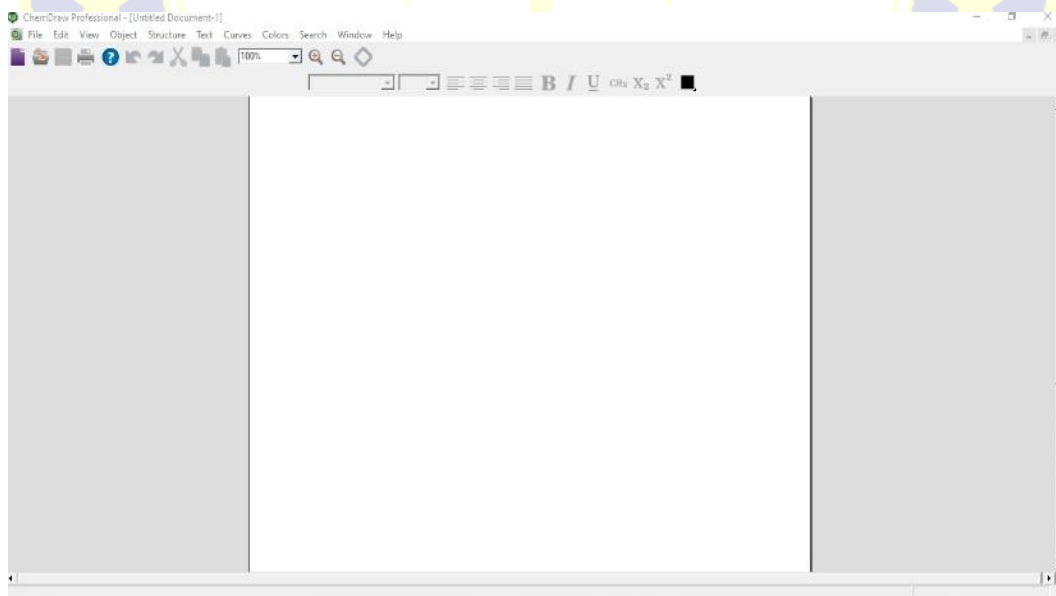


Gambar VII.11 Tampilan situs *SwissDock*

## LAMPIRAN 5 (LANJUTAN)

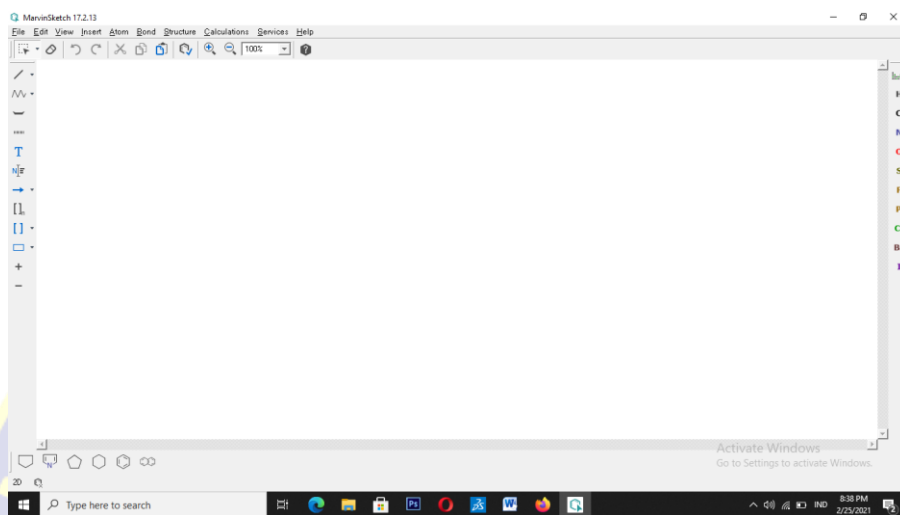


Gambar VII.12 Tampilan aplikasi *Discovery Studio Visualizer*<sup>®</sup>

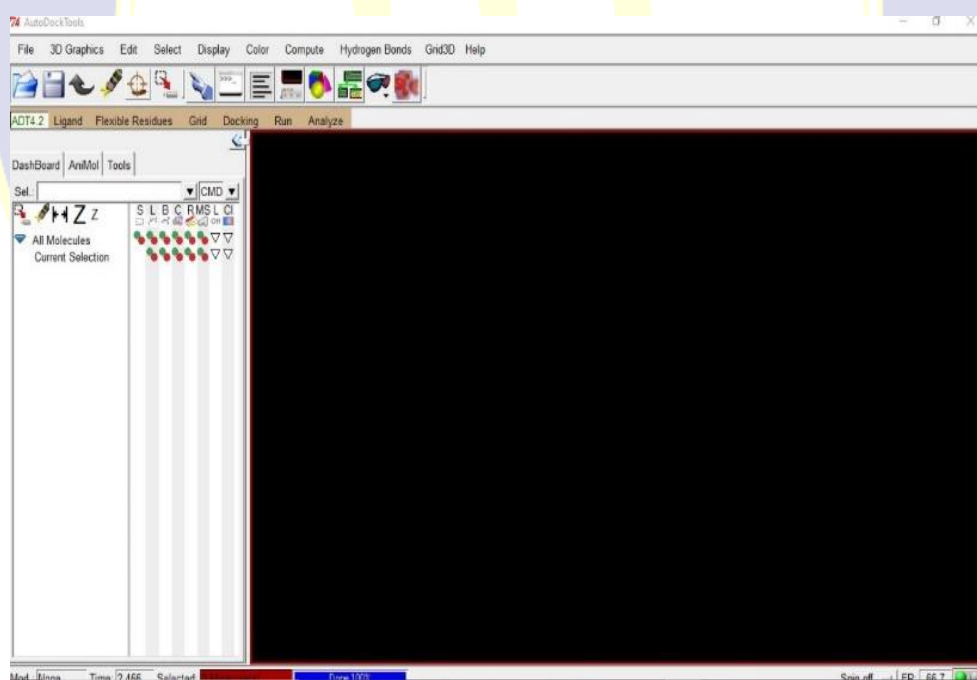


Gambar VII.13 Tampilan aplikasi *ChemDraw Professional 15.0*<sup>®</sup>

## LAMPIRAN 5 (LANJUTAN)

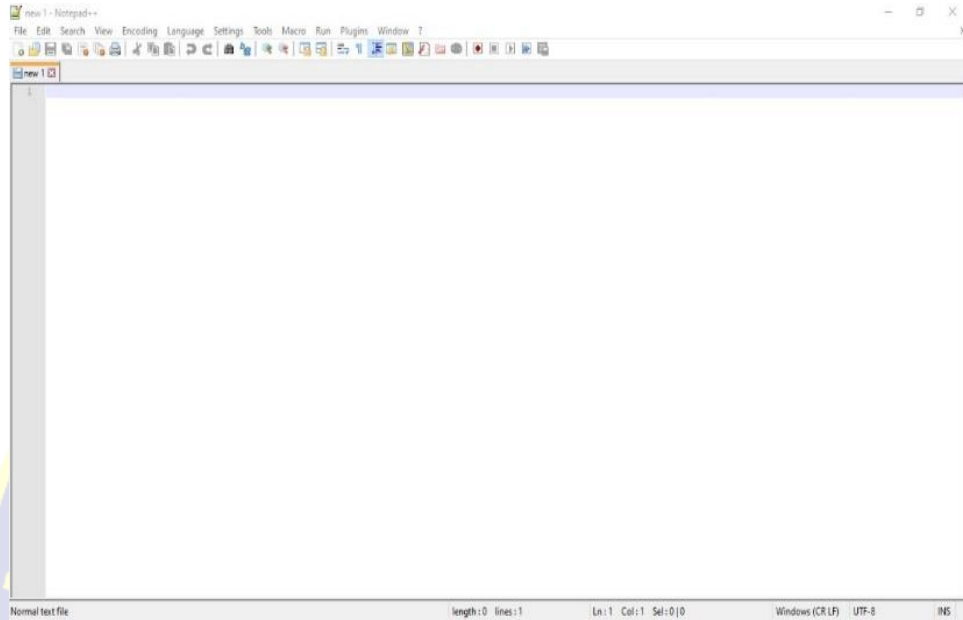


Gambar VII.14 Tampilan aplikasi *MarvinSketch*<sup>®</sup>



Gambar VII.15 Tampilan aplikasi *AutoDock Tools*<sup>®</sup>

## LAMPIRAN 5 (LANJUTAN)



**Gambar VII.16** Tampilan aplikasi *Notepad++*<sup>®</sup>

## LAMPIRAN 6 RESIDU ASAM AMINO

**Tabel VII.3**

Residu Asam Amino Simulasi *Molecular Docking* Senyawa Turunan Terpenoid Terhadap Reseptor ID 5RL4

No	Ligan uji	Residu asam amino
1	Alpha pinen	MET165,MET49
2	Beta pinen	MET165,CYS44,MET49, CYS145
3	$\alpha$ - terpineol	MET49, HSD41,MET165
4	Limonene	HSD41,MET49, MET165
5	1,8 eucaliptol / eucalyptol	MET165,HSD41,MET49
6	Y-terpinen	CYS44,MET49,MET165, HSE164
7	Linalool	PRO168,MET165,MET49, CYS44,HSD41
8	Sabinene	MET165,MET49,HSD41
9	Pinocarveol	MET165,HSD41,MET49
10	Terpinen-4-ol	MET49,MET165,HSD41
11	Myrcene	HSD41,PRO168,LEU167, MET165
12	P-cymene	MET165,HSD41,MET49, CYS44
13	Citral	LEU167,MET165,HSD41, HSE164
14	Alpha pellandrene	MET49,MET165,HSD41
15	Carvacrol	MET165,MET49,CYS44, HSD41
16	Citronellal	HSD41,MET165,PRO168
17	Citronellol	HSD41,MET49,MET165, GLU166,ARG188,THR90
18	Myrtenol	MET165,MET49
19	Verbenone	MET49,MET165,CYS145
20	Ledol	MET49,CYS145,MET165, HSD41
21	Nerolidol	CYS145,MET49,MET165, HSE164,HSD41
22	Spathulenol	MET49,MET165,HSD41, GLU166

## LAMPIRAN 6 (LANJUTAN)

**Tabel VII.3**  
Lanjutan

No	Ligan Uji	Residu asam amino
23	Beta eudesmol	MET49,HSD41,MET165
24	Alpha eudesmol	MET165,HSD41,CYS44, MET49
25	Farnesol	PRO168,HSD41,CYS145,MET165
26	Alpha cedrene	MET49,HSD41,MET165
27	10(14)-cadinene-4,11-diol	CYS44,MET49,HSD41, MET165,GLU166
28	Costunolide	CYS145,MET165
29	Germacrane	HSD41,MET49,MET165
30	Totarol	MET165,CYS145,GLY143, LEU27,MET49,HSD41
31	Cis-abienol	PRO168,MET49,HSD41, CYS145,MET165,LEU167
32	Pimarol	HSD41,MET49,CYS44, MET165
33	Pimaral	MET165,MET49,HSD41, CYS145
34	Cembrene A	HSD41,MET165,LEU167, PRO168,CYS145
35	Grayanol B	GLU166,GLY143,ASN142, CYS145,MET49,HSD41
36	Biformen	MET165,MET49,HSD41
37	Podocarpic acid	CYS145,ASN142,GLY143, MET49,HSD41
38	Ferruginol	MET165,HSD41,MET49
39	Phytol	MET49,CYS44
40	Giberrellic acid	THR26,CYS145,GLY143
41	Alpha amyrene	CYS145
42	Lupeol	HSD41,MET49,THR24
43	Lupenone	MET49,CYS145
44	Betulin	GLU166,HSD41,MET49
45	Germanicol	MET165,MET49
46	Cycloartenol	MET165,HSD41,MET49
47	Taraxerol	CYS145,MET165,HSD41,MET49

**LAMPIRAN 6  
(LANJUTAN)**

**Tabel VII.3**  
Lanjutan

No	Ligan Uji	Residu asam amino
48	Oleanolic acid	MET49,HSD41,MET165
49	Uvaol	MET165,CYS145,PRO168
50	Urcolid acid	MET49,ASN142,GLY143, CYS145
51	Tormentic acid	HSD41,MET165,MET49, ASN142
52	Pomolic acid	ASN142,CYS145,GLU166, MET165
53	Oleanane	MET49,HSD41,MET165, PRO168
54	Celastrol	PRO168,MET49,MET165, HSD41
55	Salaspermic acid	MET49,CYS145
56	Mimusopic acid	ASN142,GLY143,MET49
57	Maslinic acid	MET49,ASN142,GLY143, CYS145,SER144,LEU27
58	Moronic acid	CYS145,ASN142,GLY143, MET49
59	Nigranoic acid	PRO168,ALA191,THR90, GLN189,MET49,ASN142, GLY143,MET165
60	Bevirimat	SER46,MET49,LEU167, MET165,PRO168,CYS145
61	Hyptadienic acid	MET49,HSD41

## LAMPIRAN 6 (LANJUTAN)

**Tabel VII.4**

Residu Asam Amino Simulasi *Molecular Docking* Senyawa Turunan Terpenoid  
Terhadap Reseptor ID 5R7Y

No	Ligan Uji	Residu asam amino
1	Alpha pinen	MET49,CYS49
2	Beta pinen	MET49,CYS145
3	$\alpha$ - terpineol	CYS145,MET165,MET49
4	Limonene	CYS145,MET49,MET165
5	1,8 eucaliptol / eucalyptol	GLU166,MET165,CYS145
6	Y-terpinen	MET49,MET165,CYS145
7	Linalool	MET165,MET49,CYS145
8	Sabinene	CYS145,MET49MET165
9	Pinocarveol	CYS145,GLU166,MET49
10	Terpinen-4-ol	CYS145,MET165,MET49
11	Myrcene	MET165,MET49,CYS145
12	P-cymene	MET49,MET165,GLU166,CYS145
13	Citral	CYS145
14	Alpha pellandrene	CYS145,MET49,MET165
15	Carvacrol	MET49,MET165,HSE41,CYS145
16	Citronellal	CYS145,MET165,MET49
17	Citronellol	LEU141,CYS145,MET49,MET165
18	Myrtenol	CYS145,MET49
19	Verbenone	MET165,CYS145
20	Ledol	CYS145,GLU166
21	Nerolidol	GLU166,MET49,MET165,PRO168,CYS145
22	Spathulenol	CYS145,MET165,MET49
23	Beta eudesmol	CYS145,MET49
24	Alpha eudesmol	CYS145,MET49
25	Farnesol	CYS145,MET49,GLU166,LEU167,MET165
26	Alpha cedrene	CYS145,MET165,MET49
27	10(14)-cadinene-4,11-diol	CYS145,MET49,MET165
28	Costunolide	CYS145,MET49,MET165
29	Germacrane	CYS145,MET49
30	Totarol	MET165,MET49

## LAMPIRAN 6 (LANJUTAN)

**Tabel VII.4**  
Lanjutan

No	Ligan uji	Residu asam amino
31	Cis-abienol	CYS145,MET49,MET165,LEU167,PRO168
32	Pimarol	MET49,GLU166
33	Pimaral	MET49
34	Cembrene A	CYS145,MET49
35	Grayanol B	CYS44,HSE41,MET49
36	Biformen	CYS145,MET165,MET49
37	Podocarpic acid	GLU166
38	Ferruginol	GLY143,LEU141,MET49,CYS145
39	Phytol	LEU167,PRO168,MET165
40	Gliberreacid acid	GLU166
41	Alpha amyryne	CYS145
42	Lupeol	CYS145,MET49
43	Lupenone	MET165,GLU166,MET49
44	Betulin	THR24,MET49,GLU166,CYS145
45	Germanicol	MET49,CYS145
46	Cycloartenol	PRO168,CYS145,MET49,MET165
47	Taraxerol	CYS145,MET49,THR24
48	Oleanolic acid	CYS145,THR24
49	Uvaol	MET49
50	Urcolid acid	ASN142,MET49,MET165,GLU166
51	Tormentic acid	GLU166,ASN142,MET49,HSE41
52	Pomolic acid	CYS145,MET49,MET165,HSE41,THR24
53	Oleanane	MET49,CYS145
54	Celastrol	SER46,MET49,GLU166,CYS145
55	Salaspermic acid	PRO168,HSE164,MET49
56	Mimusopic acid	ASN142,GLU166
57	Maslinic acid	GLU166,MET165,MET49,SER46
58	Moronic acid	ASN142
59	Nigranoic acid	PRO168,ALA191,ARG188,LEU50
60	Bevirimat	GLU166,THR190,ALA191,GLN189,MET49
61	Hyptadienic acid	SER46,GLU47,MET49,GLU166

## LAMPIRAN 6 (LANJUTAN)

**Tabel VII.5**  
Residu Asam Amino Simulasi *Molecular Docking* Senyawa Turunan Terpenoid  
Terhadap Reseptor ID 7BUY

No	Ligan Uji	Residu asam amino
1	Alpha pinen	MET165,MET49
2	Beta pinen	MET49,MET165
3	$\alpha$ - terpineol	LEU167,MET165,MET49
4	Limonene	PRO168,LEU167,MET165,MET49
5	1,8 eucaliptol / eucalyptol	CYS145,GLY143,LEU27
6	Y-terpinen	MET16,HSE41,MET49,HSE164
7	Linalool	PRO168,MET165,LEU167,HSE41,HSE164,MET49
8	Sabinene	MET165,HSE41,MET49
9	Pinocarveol	CYS145,GLY143
10	Terpinen-4-ol	HSE41,HSE164,MET165,MET49
11	Myrcene	HSE164,MET49,HSE41,MET165,PRO168
12	P-cymene	MET165,HSE164,MET49,HSE41
13	Citral	LEU167,MET165,HSE41,HSE164,MET49
14	Alpha pelandrene	MET165,MET49
15	Carvacrol	GLU166,MET165,HSE164,MET49,HSE41
16	Citronellal	HSE41,HSE164,MET49,MET165
17	Citronellol	MET165,MET49,HSE164,HSE41
18	Myrtenol	MET49,HSE41,GLU166,MET165
19	Verbenone	MET165,MET49
20	Ledol	CYS145,MET49,HSE164,HSE41,MET165
21	Nerolidol	PRO168,GLU166,MET49,HSE41,CYS145,MET165
22	Spathulenol	CYS145,MET49,MET165
23	Beta eudesmol	PRO168,LEU167,MET165,MET49
24	Alpha eudesmol	MET49,MET165,LEU167,PRO168
25	Farnesol	MET49,HSE41,MET165,HSE164,CYS145
26	Alpha cedrene	MET165,MET49,CYS145
27	10(14)-cadinene- 4,11-diol	GLU166,MET165,MET49
28	Costunolide	MET165,HSE41,HSE164,MET49,THR90

## LAMPIRAN 6 (LANJUTAN)

**Tabel VII.5**  
Lanjutan

No	Ligan Uji	Residu asam amino
29	Germacrane	HSE41,MET165,MET49,HSE164
30	Totarol	CYS145,MET165,MET49
31	Cis-abienol	CYS145,MET49,MET165
32	Pimarol	MET165,MET49,CYS145
33	Pimaral	MET165,MET49,GLY143,CYS145
34	Cembrene A	MET49,MET165,CYS145
35	Grayanol B	GLY143,GLU166
36	Biformen	CYS145,MET165,MET49
37	Podocarpic acid	CYS145,HSE41,MET165,MET49,ASN142
38	Ferruginol	MET165,MET49,CYS145
39	Phytol	LEU167,MET165,HSE164,HSE41,PHE140, MET49,CYS145
40	Giberrelecid acid	MET49,ASN142,GLY143,CYS145
41	Alpha amyrine	MET165,MET49,THR26
42	Lupeol	CYS145,MET49,GLU166
43	Lupenone	MET49,CYS145
44	Betulin	MET49,MET165,HSE41,CYS145
45	Germanicol	THR24,MET165,MET49
46	Cycloartenol	MET165,MET49,THR26
47	Taraxerol	PRO168,MET165,CYS145,MET49
48	Oleanolic acid	ASN142,MET49,MET165
49	Uvaol	CYS14,MET165,MET49
50	Urcolid acid	MET165,CYS145
51	Tormentic acid	THR26,GLU166,MET165,MET49
52	Pomolic acid	GLY143,LEU27,MET49
53	Oleanane	CYS145,MET165,MET49
54	Celastrol	ASN142,GLY143,LEU27,CYS145,MET49, MET165
55	Salaspermic acid	THR24,THR25,CYS145
56	Mimusopic acid	GLU166,MET165,MET49,CYS145,GLY143,THR26
57	Maslinic acid	ASN142
58	Moronic acid	ASN142,GLY143,MET49
59	Nigranoic acid	LEU50,MET49,ASN142,SER144,GLY143,CYS145
60	Bevirimat	SER46,MET165,PRO168,CYS145
61	Hyptadienic acid	CYS145,GLN189,ARG188

## DAFTAR RIWAYAT HIDUP

Nama : FAHMI NURROHMAN  
 Jenis Kelamin : LAKI-LAKI  
 Tempat Tgl. Lahir/Usia : SERANG,03-06-1998  
 Pekerjaan/Jabatan : MAHASISWA  
 Agama : ISLAM  
 Alamat : Kp.pasar Desa Labuan Kec.MancaK Kab.Serang  
 Provinsi Banten  
 Telp/HP : 087826096626  
 Status Perkawinan : a. **Belum** / sudah / pernah kawin \*)  
 Riwayat Pendidikan  
     a. SD : SDN MANCAK 1 2004-2010  
     b. SLTP : SMPN 1 MANCAK 2010-2013  
     c. SLTA : SMK KESEHATAN  
             HUSADA PRATAMA 2013-2016  
     d. P.T : UNIVERSITAS GARUT 2017-2021  
 Pengalaman Kerja  
     a. ASISTEN APOTEKER Tahun 2016  
     b. CUSTOMER SERVICE Tahun 2017  
 Pengalaman Organisasi  
     a. ANGGOTA PRAMUKA  
     b. RELAWAN LINGKUNGAN HIDUP  
     c. RELAWAN KEMANUSIAAN

Daftar Riwayat Hidup ini dibuat dengan sebenar-benarnya dan dapat dipertanggung jawabkan.

Hormat saya,

( FAHMI NURROHMAN)