

## DAFTAR PUSTAKA

- Abeiasa, M., S. 2020. Prevalensi Kejadian Aglutinasi Spermatozoa Rattus Norvegicus Strain Wistar Albino yang Diberi Paparan Antibiotik Kanamycin. *Jurnal Riset Biologi dan Aplikasinya*, 2(1): 1-5.
- Afendi, F.M., Okada, T., Yamazaki, M., Hirai A., Nakamura, Y., Nakamura, K., Ikeda, S., Takahashi, H., Altaf-Ul-Amin, M., Darusman, L.K., Saito, K. & Kanaya, S. 2012. KNApSACk family databases: Integrated Metabolite-Plant Species Databases for Multifaceted Plant Research. *Plant and Cell Physiology*, 53 (2), 1-12.
- Agistia, D.D., Purnomo, H., Tegar, M. & Nugroho, A.E. 2013. Interaksi Senyawa Aktif dari *Aegle marmelos* Correa sebagai Anti Inflamasi dengan Reseptor COX-1 dan COX-2. *Traditional Medicine*. Vol 18(2), 80–87.
- Ahmed, J., Salim, K. A., Lim, L. B. L., & Jama, A. M. 2019. Evaluation Of Antioxidant Activity And Phytochemical Screening Of Leaves, Barks, Stems And Fruits Of *Alphitonia Philippinensis* (Rhamnaceae) From Brunei Darussalam. *Pharmacognosy Journal*, 11(5), 951–961.
- Al Omar, R., Micklewright, R., Masud, K., Naz, T., Vemulpad, S., & Jamie, J. 2022. The Genus *Alphitonia Reissek Ex Endl.* (Rhamnaceae): A Review Of Its Customary Uses, Phytochemistry And Biological Activities. *Journal of Ethnopharmacology*.29, 1-24.
- Alsayed, S. S. R., & Gunosewoyo, H. 2023. Tuberculosis: Pathogenesis, Current Treatment Regimens and New Drug Targets. *International Journal of Molecular Sciences*, 24(6), 1-23.
- Amanah D., Morani F., Nindya R., Hasri K., Azkiya F., dan Rosario T. 2022. Penghambatan Aktivitas Enzim Aldosa Reduktase dari Senyawa Aktif Daun Tanaman Kelor (*Moringa oleifera L.*): Studi In-Silico. *Jurnal Farmasi Higea*. Vol 14(2):183-189
- Amin, S. 2015. Hubungan Kuantitatif Struktur-Aktivitas Antibakteri Turunan Benzimidazol Menggunakan Metode Pm3. *Jurnal Kesehatan Bakti Tunas Husada: Jurnal Ilmu-Ilmu Keperawatan. Analisis Kesehatan Dan Farmasi*, 12(1). 254
- Anisa, R.,E.,P. & Suwendar. 2022. Monitoring Efek Samping Obat Antituberkulosis (OAT) pada Pasien Tuberkulosis Kategori I di UPT Puskesmas Bayongbong Kabupaten Garut. *Bandung Conference Series: Pharmacy*, 2(2), 409–417.
- Anggraeni, S., E., & Sri, R., R. 2018. Gejala Klinis Tuberkulosis Pada Keluarga

Penderita Tuberkulosis BTA Positif. *Higeia Journal Of Public Health Research And Development*. 91-101.

- Aplin, C., Shawn K., Kara A., Lois P., & Richard A. 2022. Evolving Experimental Techniques for Structure-Based Drug Design. *Journal of Physical Chemistry B*. 126(35), 6599-6607.
- Aref, S., M., A., Mohammad A., Mostafa A., Mahsa G., Abbas M., Mohsen H., & Khoshnood, S. 2022. The Resistance Mechanisms Of Bacteria Against Ciprofloxacin And New Approaches For Enhancing The Efficacy Of This Antibiotic. *Frontiers in Public Health*, 1–28.
- Arry, Y. 2016. *Praktek dan Aplikasi Pada Virtual Screening*. Jakarta : UI Press.
- Astriany D., Sri G., H., & Reta J. 2017. Karakterisasi Bakteri Mycobacterium Tuberculosis Menggunakan Spektrofotometri Fourier Transform Infrared. *Indonesian Journal of Pharmaceutical Science and Technology*. Vol 6(2): 13-21.
- Ban, Y. H., Song, M. C., Jeong, J. H., Kwun, M. S., Kim, C. R., Ryu, H. S., Kim, E., Park, J. W., Lee, D. G., & Yoon, Y. J. 2021. Microbial Enzymatic Synthesis of Amikacin Analogs With Antibacterial Activity Against Multidrug-Resistant Pathogens. *Frontiers in Microbiology*, 12, 1–9.
- Batt, S. M., Burke, C. E., Moorey, A. R., & Besra, G. S. 2020. Antibiotics And Resistance: The Two-Sided Coin Of The Mycobacterial Cell Wall. *Cell Surface*, 6, 1-18
- Benet LZ, Hosey C.M., & Ursu O. 2016. *The Rule Of 5 And Drug Ability*. Drug Deliv. Rev. 1-10.
- Centers for Disease Control (CDC). 2019. Self-Study Modules On Tuberculosis. *Clinics in Chest Medicine*. Diakses 25 November 2023 dari <https://www.cdc.gov/tb/education/ssmodules/default.htm>.
- Cita, Y. P., & Putri, D. H. 2017. Analisis Mutasi pada Kodon 531 Pada Gen RpoB Mycobacterium tuberculosis Penyebab Resistensi Rifampisin. *Jurnal Ilmu Kefarmasian Indonesia*, 15(2), 140.
- Cock, I., E. 2020. *Alphitonia excelsa* (Fenzl) Benth. Leaf Extracts Inhibit the Growth of a Panel of Pathogenic Bacteria. *Pharmacognosy Communications*, 10(2), 67–74.
- Cuzzolin, A., Sturlese, M., Malvacio, I., Ciancetta, A., & Moro, S. 2015. Dockbench: An Integrated Informatic Platform Bridging The Gap Between The Robust Validation Of Docking Protocols And Virtual Screening Simulations. *Molecules*, 20(6), 9977–9993.

- Dulberger, C. L., Rubin, E. J., & Boutte, C. C. 2020. The Mycobacterial Cell Envelope- A Moving Target. *Nature Reviews Microbiology*, 18(1), 47–59.
- Dwitiyanti, Harahap, Y., Elya, B., & Bahtiar, A. 2019. Study Of Molecular Docking Of Vitexin In Binahong (*Anredera Cordifolia* (Ten.) Steenis) Leaves Extract On Glibenclamide CYP3A4 Interaction. *Pharmacognosy Journal*, 11(6), 1471–1476.
- Ehlers, S., & Schaible, U. E. 2012. The Granuloma In Tuberculosis: Dynamics Of A Host-Pathogen Collusion. *Frontiers in Immunology*, 3, 1–9.
- Farhat, M. R., Shapiro, B. J., Kieser, K. J., Sultana, R., Jacobson, K. R., Victor, T. C., Warren, R. M., Streicher, E. M., Calver, A., Sloutsky, A., Kaur, D., Posey, J. E., Plikaytis, B., Oggioni, M. R., Gardy, J. L., Johnston, J. C., Rodrigues, M., Tang, P. K. C., Kato-Maeda, M., Murray, M. 2013. Genomic Analysis Identifies Targets Of Convergent Positive Selection In Drug-Resistant Mycobacterium Tuberculosis. *Nature Genetics*, 45(10), 1183–1189.
- Fernando, D. P., Arciniega, M., & Franco, J. L. M. 2018. Molecular Docking: Current Advances And Challenges. *Publicación Anticipada*, 1(21), 1-23.
- Godbole, A. A., Ahmed, W., Bhat, R. S., Bradley, E. K., Ekins, S., & Nagaraja, V. 2015. Targeting Mycobacterium Tuberculosis Topoisomerase I By Small-Molecule Inhibitors. *Antimicrobial Agents and Chemotherapy*, 59(3), 1549–1557.
- Gorgulla, C., Çınaroğlu, S. S., Fischer, P. D., Fackeldey, K., Wagner, G., & Arthanari, H. 2021. Virtualflow Ants Ultra-Large Virtual Screenings With Artificial Intelligence Driven Docking Algorithm Based On Ant Colony Optimization. *International Journal of Molecular Sciences*, 22(11).
- Gordon, S. V., & Parish, T. 2018. Microbe profile: Mycobacterium tuberculosis: Humanity's Deadly Microbial Foe. *Microbiology (United Kingdom)*, 164(4), 437–439.
- Halligudi, N., & Mullaicharam AR. 2022. Molecular Modification of Ibuprofen Using in Silico Modeling System. *J. Nutr. Pharmacol. Neurol. Dis.* Vol 2(2):156-162
- Hardjono, S. 2013. Sintesis Dan Uji Aktivitas Antikanker Senyawa 1-(2-Klorobenzoiloksi) Urea Dan 1-(4-Klorobenzoiloksi)Urea. *Berkala Ilmiah Kimia farmasi*. 2(1), 16-21.

- Helmi, M. 2023. Penderita TBC di Kalsel Naik 2 Kali Lipat Dibanding Tahun 2021. *Radar Banjarmasin*. Diakses 25 November 2023 dari <https://radarbanjarmasin.jawapos.com/banua/1973153780/penderita-tbc-di-kalsel-naik-2-kali-lipat-dibanding-tahun-2021>.
- Iscla I., Robin W., Shuguang W., Bruce P., & Paul B. 2015. Streptomycin Potency Is Dependent On Mscl Channel Expression. *HHS Publiz Access*. 1-17.
- Irwan I., Hajrah & Sastyarina Y. 2021. Simulasi Docking Senyawa Naphthoquinones Umbi Bawang Tiwai (*Eleutherine americana Merr.*) terhadap Bakteri Mycobacterium tuberculosis. *Proceeding of Mulawarman Pharmaceuticals Conferences*. 13(1), 92-98.
- Jena, L., Waghmare, P., Kashikar, S., Kumar, S., & Harinath, B. C. 2014. Computational Approach To Understanding The Mechanism Of Action Of Isoniazid, An Anti-TB Drug. *International Journal of Mycobacteriology*. 3(4), 276–282.
- Kementerian Kesehatan RI. 2020. *Pedoman Nasional Pelayanan Kedokteran Tata Laksana Tuberkulosis*. Jakarta : Kemenkes RI.
- Khairunnisa S., A. & Puspitasari I., M. 2023. Review: Efek Samping Obat Antituberkulosis Oral Lini Pertama Pada Anak. *Journal Farmaka*. 21(2), 197-205
- Khoerunisa E., F., Asep S., Tarjuman., & Yogaslina F. 2023. Lama Pengobatan Terhadap Tingkat Kecemasan Pasien Tb Paru Di Poli Paru Rsud Al - Ihsan Provinsi Jawa Barat. *Jurnal Keperawatan Indonesia Florence Nightingale*. Vol 3(1):44-51.
- Klebe G. 2013. *Protein–Ligand Interactions as the Basis for Drug Action*. Drug Design. 61– 88.
- KNCV. 2022. Laporan Kasus Tuberculosis (TBC) Global dan Indonesia 2022. *Yayasan KNCV Indonesia*. 4-11. Diakses 25 November 2023 dari <https://yki4tbc.org/laporan-kasus-tbc-global-dan-indonesia-2022/>.
- Krieger, E., Koraimann, G., and Vriend, G., 2002. Increasing The Precision Of Comparative Models With YASARA NOVA-A Self-Parameterizing Force Field. *Proteins: Structure, Function and Genetics*, 47 (3), 393–402.
- Kuldeep, J., Sandeep, K., S., Tanuj, S., Bhupendra, N.S., & Mohammad I., S. 2021. Targeting Mycobacterium Tuberculosis Enoyl-Acyl Carrier Protein Reductase Using Computational Tools for Identification of Potential Inhibitor and their Biological Activity. *Molecular*

*Informatics*. 40(5).

- Kumar, S. 2019. *Molecular Docking: A Structure-Based Approach for Drug Repurposing*. In: Roy, Kunal, eds. *In Silico Drug Design*, 161–89.
- Lin, W., Soma M., David D., Yu, L., Yon W., E., Shengjian L., Yu, F., Yu, Z., Sukhendu M., Yi J., Shuang L., Matthew G., Meliza T., Nancy C., Kalyan D., Eddy A., & Richard H., E. 2017. Structural Basis Of Mycobacterium Tuberculosis Transcription And Transcription Inhibition. *Moll Cell*. 66(2): 169-179.
- Lipinski, C. 2002. Poor aqueous solubility - An Industry Wide Problem In Drug Discovery. *American Pharmaceutical Review*, 5(3), 82–85.
- Listyani TA, Herowati R, Djali AD. 2019. Analisis Docking Molekuler Senyawa Derivat Phthalimide sebagai Inhibitor NonNukleosida HIV-1 Reverse Transcriptase. *Jurnal Farmasi Indonesia*. Vol 15(2): 123-134
- Makunyane, P. & Mathebula S. 2016. Update On Ocular Toxicity Of Ethambutol. *African Vision and Eye Health*. 75(1), 1-4
- Maurya, S., Jain, A., Rehman, M. T., Hakamy, A., Bantun, F., AlAjmi, M. F., Singh, V., Zehra, A., Khan, F., Haque, S., & Mishra, B. N. 2023. In Silico Identification of Novel Derivatives of Rifampicin Targeting Ribonuclease VapC2 of M. tuberculosis H37Rv: Rifampicin Derivatives Target VapC2 of Mtb H37Rv. *Molecules*, 28(4), 1-13.
- Mardianingrum, R., Kamiel, R., B., Susanti, S., Aas, N., Ruswanto. 2021. Studi In Silico Senyawa 1,4-Naphthalenedione-2-Ethyl-3-Hydroxy sebagai Antiinflamasi dan Antikanker Payudara. *Alchemy Jurnal Penelitian Kimia*. 17(1): 83-95.
- Martati, T., Mumpuni, E., Mulatsari, E., and Maryono, K., 2018. Analisis Selektivitas Senyawa Turunan Diosmetin Sebagai Antioksidan Baru Dengan Menggunakan Metode Molecular Docking. *Jurnal Farmasi Indonesia*, 10 (1), 362–370.
- Mukesh, B. & Rakesh, K. 2011. Molecular docking : a review. *International Journal of Research in Ayurveda & Pharmacy*, 2 (6), 1746–1751.
- Nabilah, R. 2022. Studi In Silico Aktivitas Antibakteri Senyawa Golongan Gingerol Dan Shogaol Jahe Merah (*Zingiber Officinale* Var. Rubrum) Terhadap Reseptor *Skripsi*. Universitas Islam Negeri Maulana Malik Ibrahim Malang, 128.
- Nath, R., Saikia, L., Choudhury, G., & Sharma, D. 2013. Drug Resistant *Shigella flexneri* In & Around Dibrugarh, North-East India. *Indian J. Med. Res*. 137, 183–186.

- Novi, T. W., Prabowo, W. C., & Prasetya, F. 2021. Kajian In Silico Senyawa Turunan Pirazolina terhadap Bakteri *Eschericia coli*. *Proceeding of Mulawarman Pharmaceuticals Conferences*. 199–203.
- Nugrahaeni, S.,K. & Upep, S., M. 2015 Analisis Penyebab Resistensi Obat Anti Tuberkulosis. *Jurnal Kesehatan Masyarakat*.11(1), 8-15.
- Nurindi F., S., Rani H., Arif Y., P., & Yusran M. 2018. Hubungan Durasi Penggunaan Etambutol Fase Intensif Kategori 1 terhadap Gangguan Persepsi Warna dan Penurunan Tajam Penglihatan pada Penderita Tuberkulosis di Puskesmas Rawat Inap Panjang Kota Bandar Lampung. *Agromedicine*. 5(1) : 399-402.
- Nursamsiar, N., Toding, A. T., dan Awaluddin,A. 2016. Studi In Silico Senyawa Turunan Analog Kalkon dan Pirimidin Sebagai Antiinflamasi: Prediksi Absorpsii Distribusi, dan Toksisitas. *Pharmacy*. 13(1): 92-100
- Ododo.,M. Choudhury., M. Dekebo, A. 2016. Structure Elucidation Of B-Sitosterol With Antibacterial Activity From The Root Bark Of *Malva Parviflora*. *SpringerPlus* .5(1), 1–11.
- Pace C.N., Fu H., Fryar K.,L., Landua J., Trevino SR., & Shirley B., A. 2011. Contribution of Hydrophobic Interactions to Protein Stability. *J Mol Biol*. Vol 408(3):514.
- Prasad, M. S., Bhole, R. P., Khedekar, P. B., & Chikhale, R. V. 2021. Mycobacterium Enoyl Acyl Carrier Protein Reductase (Inha): A Key Target For Antitubercular Drug Discovery. *Bioorganic Chemistry*, 115, 1-25.
- Prayogi S, Dhiani BA, Djalil AD. Molecular Docking of Bicycloproline Derivative Synthetic Compounds on Envelope Protein: Anti-SARS-CoV-2 Drug Discovery. *Jurnal Farmasi Dan Ilmu Kefarmasian Indonesia*. Vol 10(1):11–21.
- Previti, E., Foti, C., Giuffrè, O., Saija, F., Sponer, J., & Cassone, G. 2021. Ab Initio Molecular Dynamics Simulations And Experimental Speciation Study Of Levofloxacin Under Different Ph Conditions. *Physical Chemistry Chemical Physics*, 23(42), 24403–24412.
- Pujiastuti, M. W., & Sanjaya, I. G. M. 2017. Penentuan Aktivitas Senyawa Turunan Mangiferin Sebagai Antidiabetes Pada Diabetes Mellitus Tipe 2 Secara in Silico Determination of Mangiferin Derived Compounds As Antidiabetic for Type 2 Diabetes Mellitus With in Silico. *UNESA Journal of Chemistry*, 6(3), 172–176.

- Putra, P., P., Annisa F., & Henny L. 2020. In Silico Analysis of Physical-Chemical Properties, Target Potential, and Toxicology of Pure Compounds from Natural Products. *Indonesian Journal of Pharmaceutical Science and Technology*. 7(3). 107-117
- Putri, A., R., E. & Suwendar. 2022. Monitoring Efek Samping Obat Antituberkulosis (OAT) pada Pasien Tuberkulosis Kategori I di UPT Puskesmas Bayongbong Kabupaten Garut. *Bandung Conference Series Pharmacy*. 2(2), 409-417.
- Purnomo, H. 2013. *Kimia Komputasi: Molecular Docking Plants Penambatan Molekul Plants [Protein-Ligand-Ant- System] ("Ilmu Semut")*. Yogyakarta : Pustaka Belajar.
- Rabaan A., Saad A., Hawra A., Mohammed A., Fadwa A., Mawaheb H., Safaa A., Salah M., Hejji E., Abdulwahab B., Mutaib M., Sara A., & Abbas A. 2022. Review : Promising Antimycobacterial Activities of Flavonoids against Mycobacterium sp. Drug Targets: A Comprehensive Review. *Molecules*. Vol 27(5335): 1-15.
- Rahayu F., Mega K.. & Lukman H. 2024. Interaksi Senyawa Aktif dari *Muntingia calabura* terhadap Enzim Human ROS-1: In Silico. *Pharmacy Peradaban Journal*. Vol 4(1): 138-145
- Rais, A. F. 2017. Analisis Profil Protein Ikan Nila (*Oreochromis niloticus*) Berbasis SDS-Page Berdasarkan Variasi Lama Marinasi dan Konsentrasi Asam Cuka. *Skripsi*. Program Sarjana keperawatan, Universitas Muhammadiyah Semarang, Semarang. (tidak dipublikasikan)
- Ramadhan, H., Rahmi M., Sari W., Dyera F., Sherly M., Soleha & Lihimi. 2023. Comparison Of Extraction Solvents Towards Anti-*Propionibacterium Acnes* Activity Of *Alphitonia Incana* (Roxb). Teijsm. & Binn. Ex Kurz Leaves. *Indonesian Journal of Pharmaceutical Science and Technology*. 1(1) : 10-19.
- Riccardi, G., & Pasca, M. R. 2014. Trends In Discovery Of New Drugs For Tuberculosis Therapy. *Journal of Antibiotics*, 67(9), 655–659.
- Rismawandi. 2022. Literature Review: Perbandingan Hasil Tes Cepat Molekuler (Tcm) Kultur Dan Metode Loop-Mediated Isothermal Amplification (Lamp) Dalam Mendeteksi *Mycobacterium Tuberculosis*. *Skripsi*. Universitas Aisyah Yogyakarta.
- Riyaldi, M., R., Nadia U., F., Ratu H., F., D., Ivanna F., K., Syahrul H., Cecep S., & Muchtaridi. 2022. Studi In-Silico Senyawa Pada Ekstrak Bawang Putih (*Allium Sativum L.*) Sebagai Inhibitor Neuraminidase Pada

- Influenza. *Jurnal Farmaka*. 20(3). 1-11.
- Rena S., Nurhidayah., & Rustan. 2022. Analisis Molecular Docking Senyawa *Garcinia mangostana* L Sebagai Kandidat Anti SARS-CoV-2. *Jurnal Fisika Unand*. Vol 11(1):82-88.
- Rocha, D. M. G. C., Viveiros, M., Saraiva, M., & Osório, N. S. 2021. The Neglected Contribution Of Streptomycin To The Tuberculosis Drug Resistance Problem. *Genes*, 12(12).
- Roy, K., Kar, S., & Das, R. N. 2015. *Understanding the Basics of QSAR for Applications in Pharmaceutical Sciences and Risk Assessment*. New York : Elsevier Science,
- Ruswanto, 2015. Molecular Docking Empat Turunan Isonicotinohidrazide Pada Mycobacterium Tuberculosis Enoly-Acyl Carrier Protein Reductase (Inha). *Jurnal Kesehatan Bakti Tunas Husada: Jurnal Ilmu-ilmu Keperawatan, Analisis Kesehatan dan Farmasi*, 13 (1), 135-141.
- Salih E., Ritta J., Olavi L., Marketta S., Mustafa K., & Pia J. 2020. Potential Anti-Tuberculosis Activity of the Extracts and Their Active Components of *Anogeissus leiocarpa* (DC.) Guill. and Perr. with Special Emphasis on Polyphenols. *Antibiotics*. Vol 9(364):1-25
- Sandra, E., Fitriyanti & Azmi Y. 2022. Efektivitas Antibakteri Ekstrak Metanol Daun Balik Angin (*Alphitonia Incana*) Terhadap *Escherichia Coli* Menggunakan Difusi Sumuran. *Pharmacosript*. 5(2), 201-211.
- Sanusi S., Mohd F., Maryati M., Siti F., & Muhammad M. 2017. Review Article Southeast Asian Medicinal Plants as a Potential Source of Antituberculosis Agent. *Evidence-Based Complementary and Alternative Medicine*. 1-39
- Selvaraj, C., Ishwar C., & Sanjeev K., S. 2022. Artificial Intelligence and Machine Learning Approaches for Drug Design: Challenges and Opportunities for The Pharmaceutical Industries. *Molecular Diversity*. 26. 1893-1913.
- Setiawan, F. F., & Istyastono, P. 2015. Uji In Silico Senyawa 2,6-Dihidroksiantraquinon Sebagai Ligan Pada Reseptor Estrogen Alfa. *Jurnal Farmasi Sains Dan Komunitas*, 12(2), 77–80.
- Setiawan, T., Ambarsari, L., Sumaryada, T. I. 2016. Studi in Silico Converse Region Etoposite Binding Domain Pada Isozim Human DNA Topoisomerase II. *Cakra Kimia Indonesian E- Journal of Applied Chemistry*. 4(1), 61–70.
- Shi, W., Chen, J., Feng, J., Cui, P., Zhang, S., Weng, X., Zhang, W., & Zhang, Y.



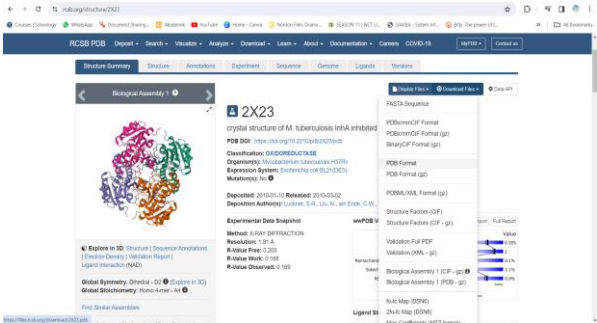
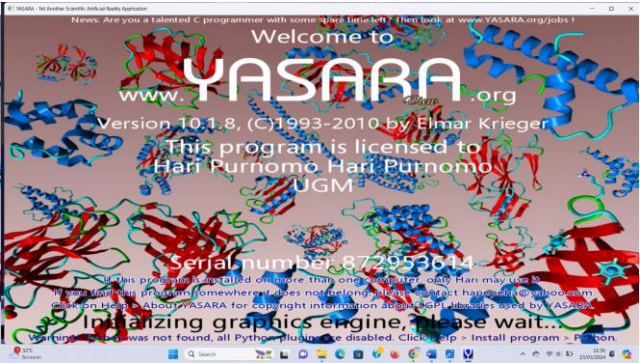
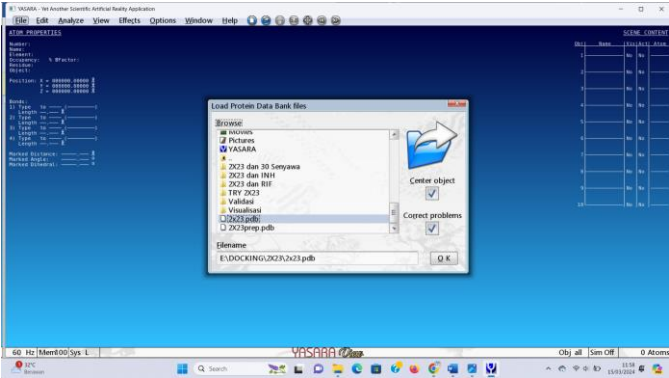
2014. Aspartate Decarboxylase (Pand) As A New Target Of Pyrazinamide In *Mycobacterium Tuberculosis*. *Emerging Microbes & Infections*, 3(1), 1–8.
- Singh, K., Pandey, N., Ahmad, F., Upadhyay, T. K., Islam, M. H., Alshammari, N., Saeed, M., Al-Keridis, L. A., & Sharma, R. 2022. Identification of Novel Inhibitor of Enoyl-Acyl Carrier Protein Reductase (InhA) Enzyme in *Mycobacterium tuberculosis* from Plant-Derived Metabolites: An In Silico Study. *Antibiotics*, 11(8), 1-12.
- Siregar, S.,R. 2019. Extensively Drug Resistant Tuberculosis (XDR TB). *Jurnal Averrous*. 5(2), 26-43.
- Sizar, O., Rahman, S., & Sundareshan, V. 2023. Amikacin. StatPearls [Internet] : StatPearls Publishing.
- Stukernboom, M., Noviana, S., Onno, W., Samiksha, G., Mathieu, S. & Jan W. 2018. Amikacin Dosing for MDR Tuberculosis: A Systematic Review to Establish or Revise the Current Recommended Dose for Tuberculosis Treatment. *Journal Clinical Infectious Disease*. 67(3), S303-S3017.
- Suprpta, K. A. 2018. Identifikasi Asam Amino Pada Albumin Telur Dan Sampel Albumin Telur. *Skripsi*. Universitas Pendidikan Ganesha, 8(1), 1–7.
- Susanti N., Saputra., Hendrayanti., Parahyangan & Swandari. 2018. Molecular Docking Sianidin dan Peonidin sebagai Antiinflamasi pada Aterosklerosis Secara In Silico. *Jurnal Farmasi Udayana*. Vol 7(1):28-33
- Syahputra G, Ambarsari L. & Sumaryada T. 2014. Simulasi Docking Kurkumin Enol, Bisdemetoksikurkumin Dan Analognya Sebagai Inhibitor Enzim 12- Lipoksigenase. *J. Biofisika*. Vol 10(1): 55-67.
- Thorve, K. 2023. An Overview on Streptomycin : Its Mechanism and Clinical Applications. *Journal of Bacteriology & Parasitology*. 14(1000053), 1–2.
- Umami K. 2020. Modifikasi Struktur dan Uji Antidiabetes  $\alpha$ -mangostin Hasil Isolasi Dari Ekstrak Etil Asetat Kulit Buah *Garcinia mangostana* Linn. *Tesis*. Institut Teknologi Sepuluh November.
- Woldeyes, S., Adane, L., Tariku, Y., Muleta, D., Begashaw, T., 2012. Evaluation Of Antibacterial Activities Of Compounds Isolated From *Sida Rhombifolia* Linn. Malvaceae). *Nat. Prod. Chem. Res*. 1(101), 2.
- World Health Organization (WHO). 2022. *WHO Consolidated Guidelines On Tuberculosis. Module 4: Treatment - Drug Resistant Tuberculosis*

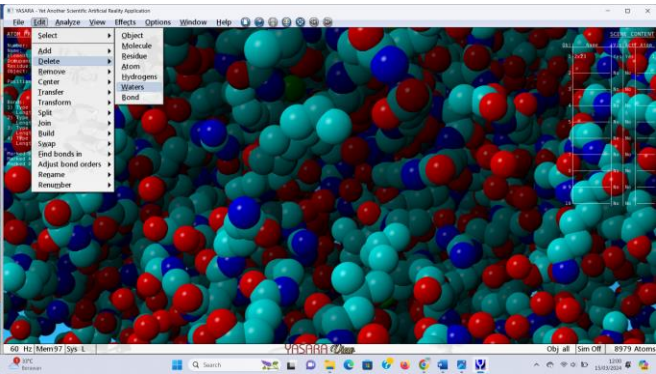
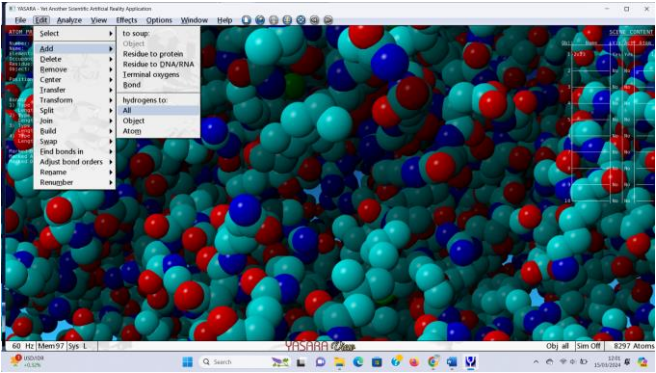
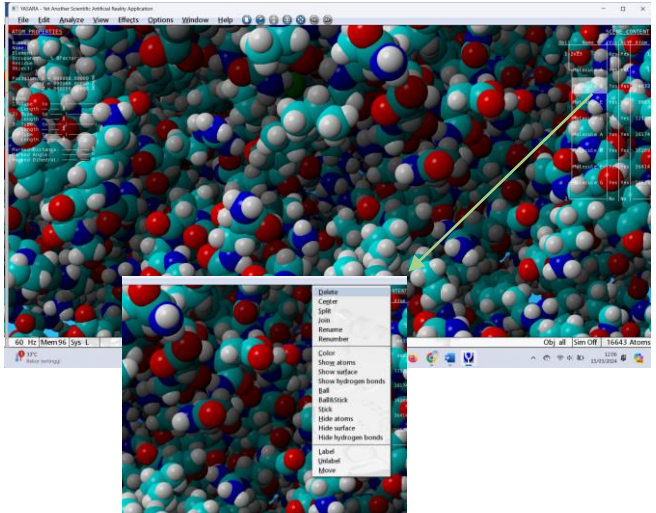
*Treatment 2022 Update*. World Health Organization : Geneva.

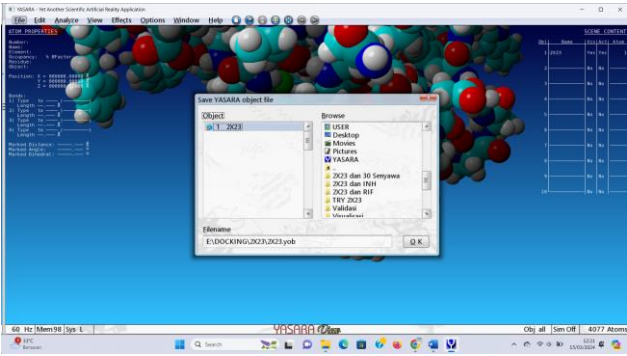
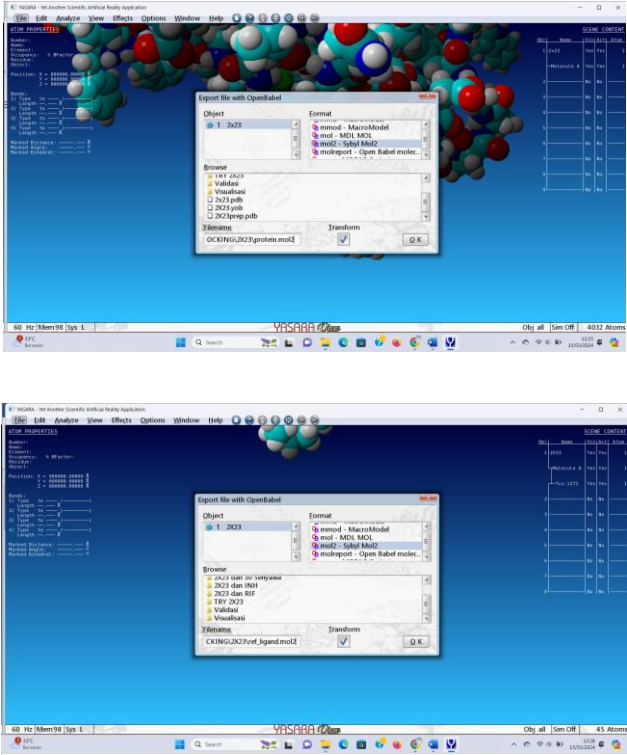
- World Health Organization (WHO). 2022. Global Tuberculosis Report 2022. Geneva : World Health Organization.
- Yang, J., Zhang, L., Qiao, W., & Luo, Y. 2023. Mycobacterium tuberculosis: Pathogenesis And Therapeutic Targets. *MedComm*, 4(5), 1–39.
- Zahra F., Janifa A., Sagung D., Almeida E., Syifa F., Diah L., Angela A., & Barnap D. 2022. In Silico Study of Betel Leaves Compound (Piper betle L.) as Acetylcholinesterase (AChE) Enzyme Inhibitor in Alzheimer Disease. *Indonesian Journal of Biological Pharmacy*. Vol 2(2):44-58
- Zhang, L., Zhao, Y., Gao, Y., Wu, L., Gao, R., Zhang, Q., Wang, Y., Wu, C., Wu, F., Gurcha, S. S., Veerapen, N., Batt, S. M., Zhao, W., Qin, L., Yang, X., Wang, M., Zhu, Y., Zhang, B., Bi, L., Rao, Z. 2020. Structures Of Cell Wall Arabinosyltransferases With The Anti-Tuberculosis Drug Ethambutol. *Science*, 368(6496), 1211–1219.
- Zhang, Y., Shi, W., Zhang, W., & Mitchison, D. 2014. Mechanisms of Pyrazinamide Action and Resistance The History: The Unusual Discovery and the Roller Coaster of PZA. *Microbiol Spectr*, 2(4), 1–12.
- Zhao, X., Yuan, Y., Shao, Q., & Qiao, H. 2022. Simultaneous Determination of Moxifloxacin Hydrochloride and Dexamethasone Sodium Phosphate in Rabbit Ocular Tissues and Plasma by LC-MS/MS: Application for Pharmacokinetics Studies. *Molecules*, 27(22).
- Zardecki, C., Dutta, S., Goodsell, D.S., Voigt, M., & Burley, S.K. 2016. RCSB Protein Data Bank: A resource for chemical, Biochemical, and Structural Explorations of Large and Small Biomolecules. *Journal of Chemical Education*, 93(3), 569–575

# LAMPIRAN

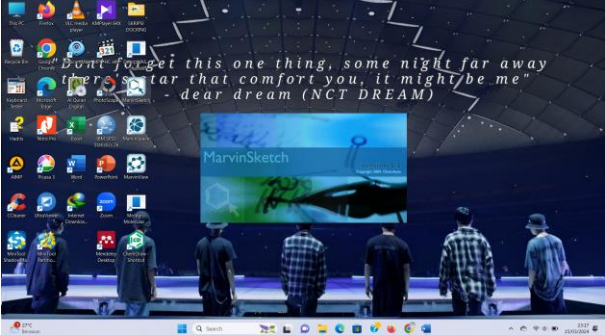
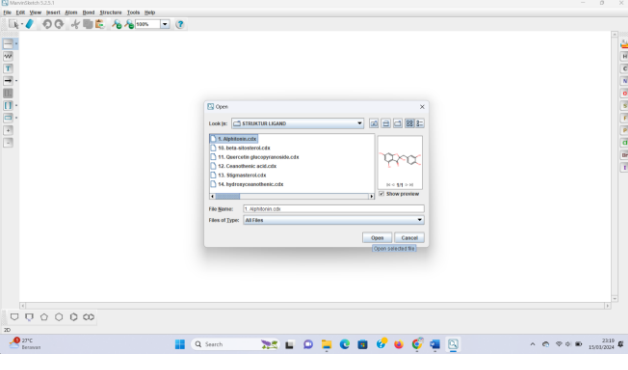
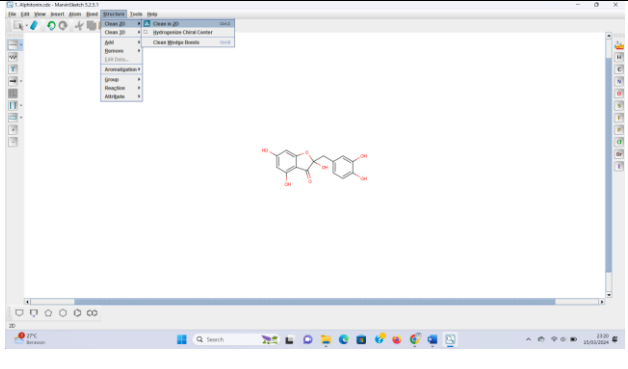
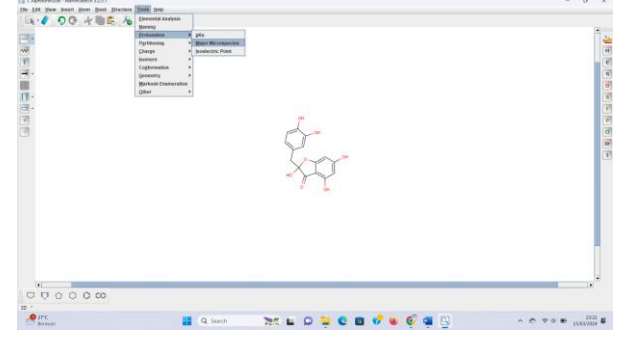
### Lampiran 1. Tahapan Preparasi Protein dan *Native Ligand*

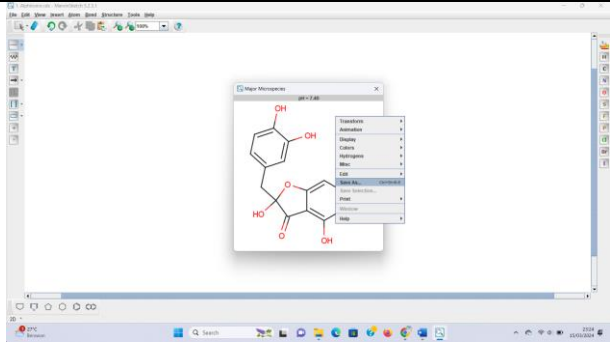
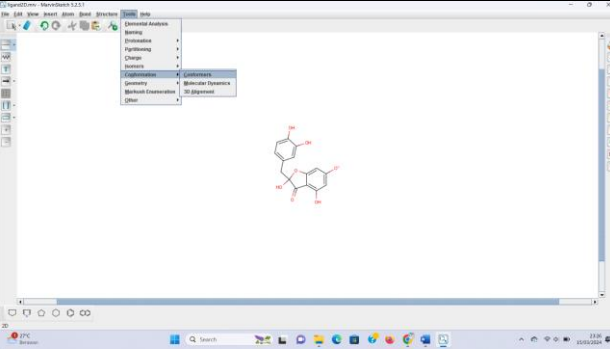
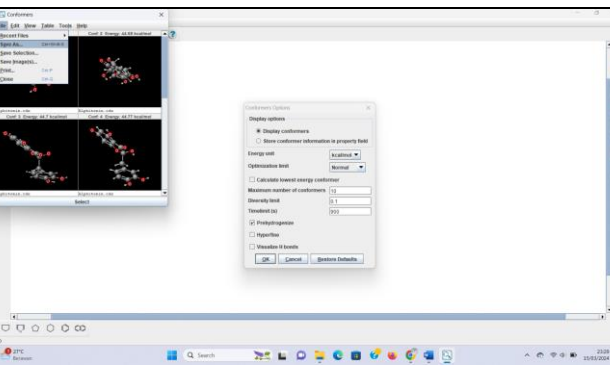
No	Tahapan	Dokumentasi
1.	<p>Download protein di PDB (<i>Protein Data Bank</i>) melalui website : <a href="https://rcsb.org/">https://rcsb.org/</a></p> <p>Dengan file format .pdb</p>	
2.	<p>Preparasi protein menggunakan aplikasi YASARA,</p>	
3.	<p>Input file pdb dengan cara :</p> <p>File → Load → Pdb File → Pilih protein → Ok</p>	

4.	<p>Hapus molekul air dengan cara :</p> <p>Edit → Delete → Water</p>	
5.	<p>Tambahkan molekul hidrogen dengan cara :</p> <p>Edit → Add → hydrogen to : All</p>	
6.	<p>Hapus rantai yang tidak digunakan, sisakan protein dan <i>native ligand</i> yang digunakan dengan cara :</p> <p>Dibagian ujung kanan terdapat protein → klik → tampak berbagai molekul → hapus dengan klik kanan di bagian molekul.</p>	

<p>7. Simpan hasil preparasi dengan format .yob (contoh : 2X23.yob)</p> <p>File → Save as → Yasara Object</p>	
<p>8. Pemisahan protein dan <i>native ligand</i> dengan cara:</p> <p>File → Load → Yasara Object → hapus <i>native ligand</i> → save as → other file format → mol2 (contoh : protein.mol2)</p> <p>File → Load → Yasara Object → hapus protein → save as → other file format → mol2 (contoh : ref_ligand.mol2)</p>	

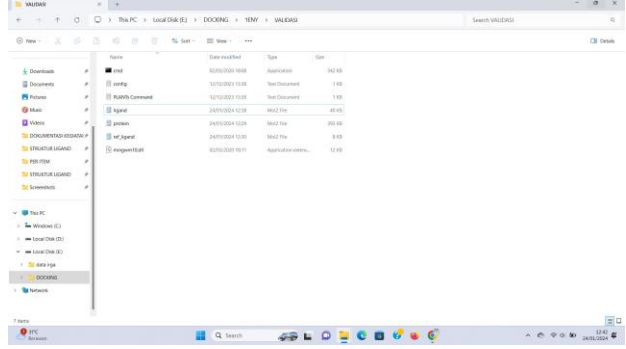
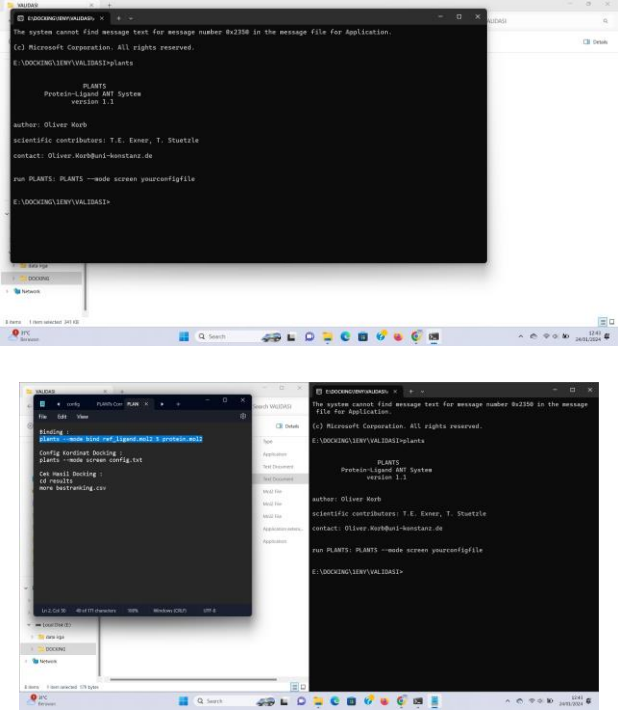
**Lampiran 2.** Tahapan Preparasi *Native Ligand*, Obat Pembeding dan Senyawa Uji

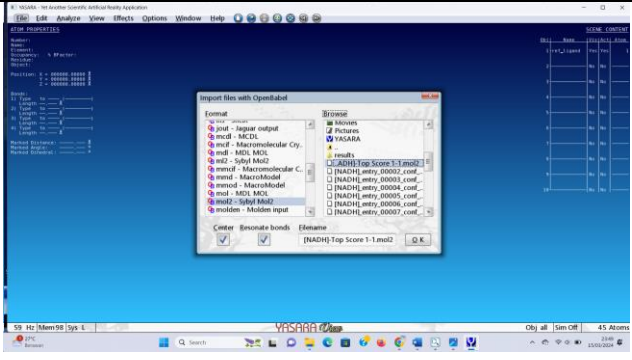
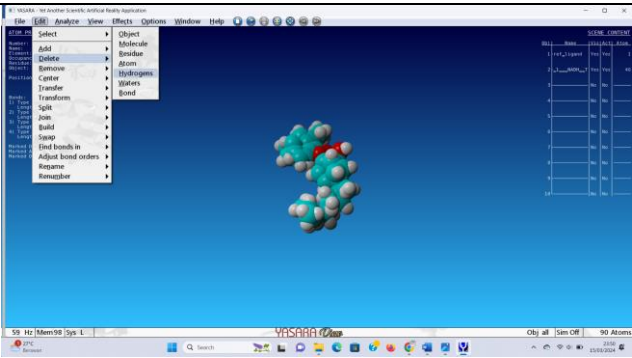
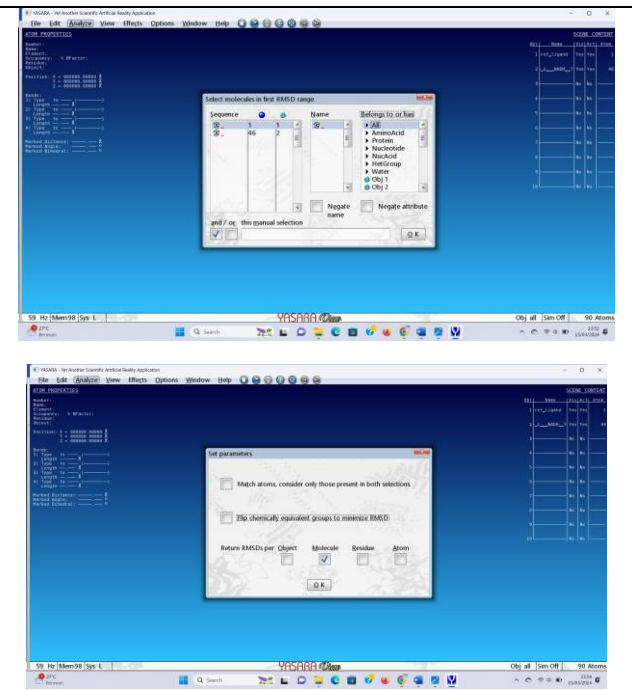
No	Tahapan	Dokumentasi
1.	Preparasi senyawa menggunakan aplikasi Marvin Sketch.	
2.	Input file senyawa ( <i>native ligand</i> , obat pembeding atau senyawa uji) dengan cara : File → Open → pilih file	
3.	Ubah bentuk 2D dengan cara : Structure → Clean 2D → Clean in 2D	
4.	Stabilkan dengan cara protonation pH yakni : Tools → Protonation → Major Microspecies → Ok PH 7,4	

5.	<p>Simpan file dengan cara :</p> <p>Klik kanan → Save As (rename : ligand2D.mrv)</p>	
6.	<p>Konformasi senyawa dengan cara :</p> <p>Input file ligand2D.mrv → Tools → Conformation → Conformer → OK</p>	
7.	<p>Simpan file konformasi</p> <p>File → Save as (rename : ligand.mol2)</p>	

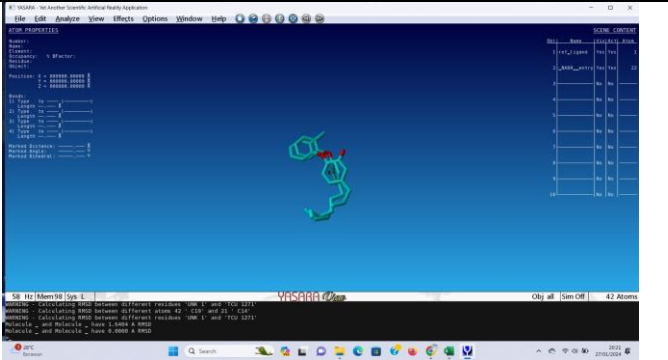


### Lampiran 3. Tahapan Validasi Protein dan Penetapan RMSD

No	Tahapan	Dokumentasi
1.	<p>Siapkan folder yang berisi :</p> <ul style="list-style-type: none"> <li>- File CMD</li> <li>- File config.</li> <li>- File Plants Command</li> <li>- File mingwm10.dll</li> <li>- File protein.mol2</li> <li>- File ref_ligand.mol2</li> <li>- File ligand.mol2 (conformer)</li> </ul> <p>Keterangan :</p> <p><span style="background-color: #00FF00; padding: 2px;"> </span> : Sudah dipreparasi</p>	
2.	<p>Docking Senyawa <i>Native Ligand</i> Menggunakan PLANTS dengan cara :</p> <p>Klik file cmd → ketik plants → masukkan kode binding di file Plants Command → copy → enter → tunggu</p>	

3.	<p>Buka YASARA input ref_ligand dan hasil docking (konformasi 1-10) dengan cara :</p> <p>File → Load → other file format → ref_ligand.mol2 dan konformer</p>	
4.	<p>Hapus Hidrogen dengan cara :</p> <p>Edit → Delete → Hydrogens</p>	
5.	<p>Analisis nilai RMSD dengan cara :</p> <p>Analyze → RMSD of → molecules → sesuaikan parameter</p>	

6. Lihat nilai hasil RMSD



The screenshot shows the VMD (Visual Molecular Dynamics) interface. The main window displays a 3D ribbon model of a protein structure in green. The terminal window at the bottom shows the following output:

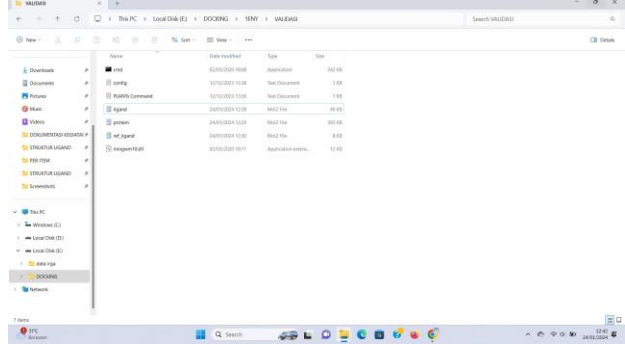
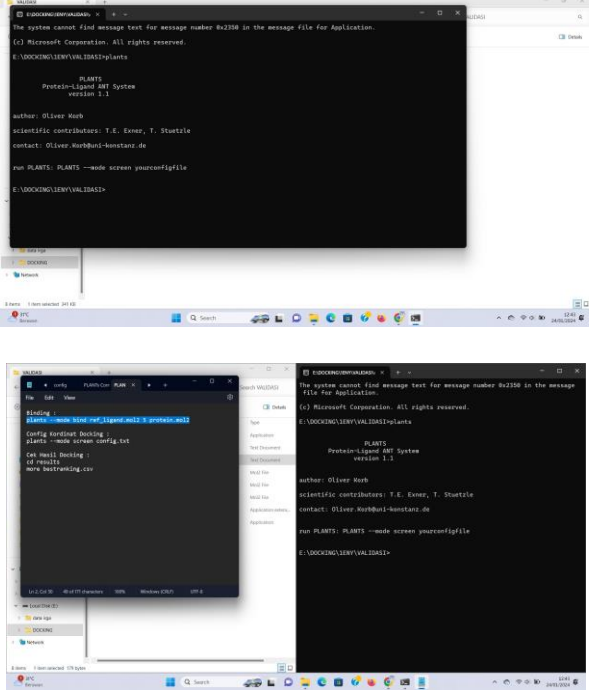
```

58 H2O_Mon180 type 1
*****
***** - Calculating RMS between different frames (00 - 1) and (00 - 1)
***** - Calculating RMS between different atoms (2 - CIP, and 21 - CIP)
***** - Calculating RMS between different residues (100 - 1, and 100 - 201)
***** - Calculating RMS with 2 RMS
***** - and Molecule 1 has 0.0000000000 RMSD
***** - and Molecule 2 has 0.0000000000 RMSD

```

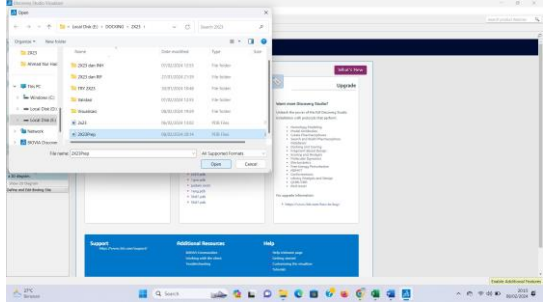
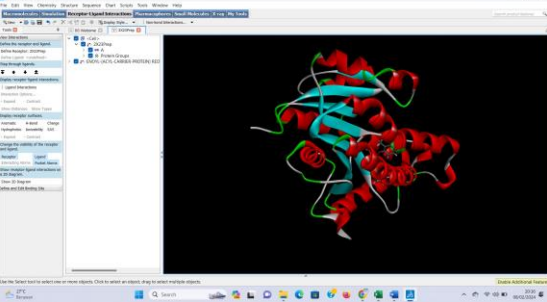
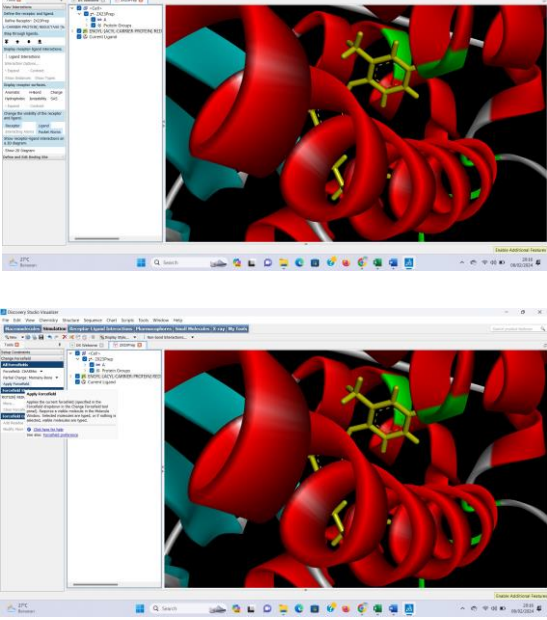
The RMSD value is 0.0000000000, indicating that the two structures are identical or have not moved relative to each other.

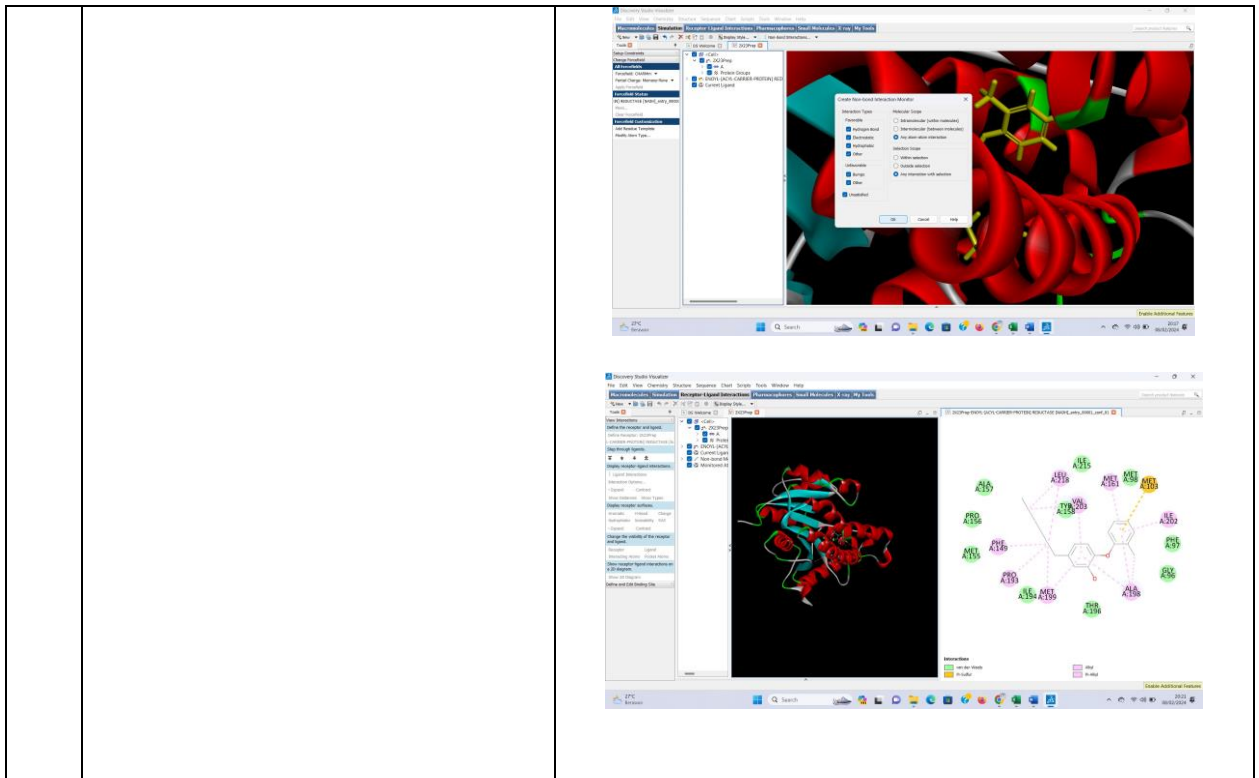
## Lampiran 4. Tahapan Docking Protein dengan Obat Pembeding dan Senyawa Uji

No	Tahapan	Dokumentasi
1.	<p>Siapkan folder yang berisi :</p> <ul style="list-style-type: none"> <li>- File CMD</li> <li>- File config.</li> <li>- File Plants Command</li> <li>- File mingwm10.dll</li> <li>- File protein.mol2</li> <li>- File ref_ligand.mol2</li> <li>- File ligand.mol2 (conformer)</li> </ul> <p>Keterangan :</p> <p><span style="background-color: #00FF00; padding: 2px;"> </span> : Sudah dipreparasi</p>	
2.	<p>Docking Protein dan Senyawa Uji Menggunakan PLANTs dengan cara :</p> <p>Klik file cmd → ketik plants → masukkan kode <b>binding “plants -mode bind ref_ligand.mol2 5 protein.mol2”</b> → copy → enter</p>	

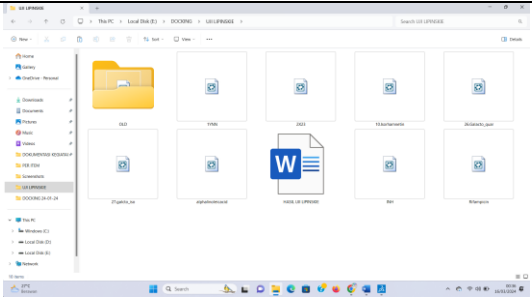

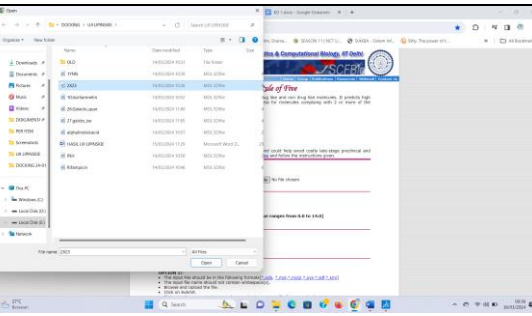
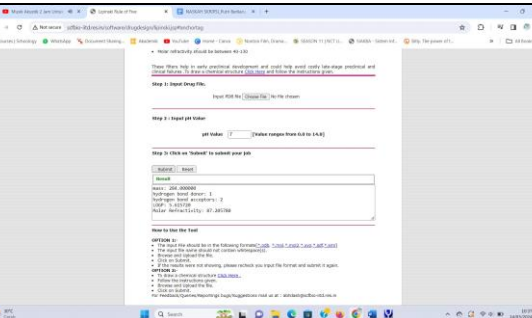


### Lampiran 5. Tahapan Visualisasi Ikatan Protein dengan Senyawa Uji

No	Tahapan	Dokumentasi
1.	<p>Visualisasi dilakukan di aplikasi Discovery Studio. Input file protein yang sudah dipreparasi dengan cara :</p> <p>File → Open → file protein</p>	
2.	<p>Input <i>native ligand</i>/obat pembeding/senyawa uji. Dengan cara :</p> <p>Pindahkan file langsung ke layar discovery (insert <i>ligand</i>)</p>	
3.	<p>Atur parameter dengan cara</p> <ul style="list-style-type: none"> <li>- <i>Receptor-Ligand Interaction</i> → Klik define ligand</li> <li>- <i>Simulation</i> → Klik Apply Forcefield</li> <li>- <i>Non bond Interaction</i> → ceklis seperti di gambar</li> <li>- <i>Receptor-Ligand Interaction</i> → klik show 2D</li> </ul>	



### Lampiran 6. Tahapan Pengujian *Rules Of Five Lipinskie*

No	Tahapan	Dokumentasi
1.	Siapkan ligand dalam bentuk sdf	
2.	Buka website lipinskie melalui : <a href="http://www.scfbio-iitd.res.in/software/drugdesign/lipinski.jsp">http://www.scfbio-iitd.res.in/software/drugdesign/lipinski.jsp</a>	
3.	Input file dengan cara : Choose file → pilih file	
4.	Submit → lihat hasil	



**Lampiran 7.** Hasil RMSD Protein *Enoyl-Acyl Carrier Protein Reductase* / InhA

<i>Conformer</i>	Protein			RMSD		
	1ENY	2NV6	2X23	1ENY	2NV6	2X23
1	-130.635	-110.184	-98.812	9.339	15.446	1.640
2	-128.094	-111.048	-98.513	9.856	5.716	1.645
3	-130.916	-106.142	-95.322	11.674	12.612	1.830
4	-131.304	-105.281	-95.095	11.170	14.197	3.271
5	-123.486	-97.539	-93.995	6.861	5.208	1.238
6	-129.290	-109.244	-94.704	11.977	16.085	1.175
7	-124.159	-110.503	-94.012	4.897	16.079	1.162
8	-128.769	-99.631	-92.974	3.045	13.009	3.252
9	-132.402	-109.775	-94.870	11.715	15.795	1.251
10	-130.752	-96.291	-93.709	9.545	14.592	2.938

**Lampiran 8.** Hasil RMSD Protein *RNA Polymerase* (RNAP)

<i>Conformer</i>	Protein			RMSD		
	3H87	1I6V	1YNN	3H87	1I6V	1YNN
1	-32.86	-74.936	-86.298	0.308	8.242	2.240
2		-71.996	-86.277		8.461	2.249
3		-76.718	-79.412		8.310	1.971
4		-72.945	-79.267		7.228	1.988
5		-78.618	-80.367		8.631	2.085
6		-73.006	-79.598		8.533	2.059
7		-77.114	-81.480		7.316	4.452
8		-77.839	-79.697		8.379	1.928
9		-72.715	-79.536		6.388	1.894
10		-72.386	-79.580		8.529	1.949

Lampiran 9. Hasil Docking, Visualisasi dan Residu Asam Amino Senyawa Genus Alphonitia

No	Senyawa/Ligand	Conformer	Protein		Visualisasi		Residu Asam Amino	
			2X23	1YNN	2X23	1YNN	2X23	1YNN
1.	Native	1	-98.812	-86.298			PHE A:149	LEU C:413
		2	-98.513	-86.277			PRO A:193	LEU C:391
		3	-95.322	-79.412			MET A:199	ILE C:452
		4	-95.095	-79.267			LEU A:218	HIS C:406
		5	-93.995	-80.367			VAL A:203	ASN C:448
		6	-94.704	-79.598			ALA A:198	GLN C:393
		7	-94.012	-81.480			MET A:161	GLY C:446
		8	-92.974	-79.697			ILE A:202	ARG C:409
		9	-94.870	-79.536			MET A:103	GLN C:390
		10	-93.709	-79.580				
2.	Obat Pemandang	1	-65.484	-79.449			PHE A:149	TYR C:998
		2	-65.448	-79.705			MET A:199	ILE C:452
		3	-65.504	-79.560			VAL A:203	PHE C:394
		4	-65.269	-79.922			ILE A:194	ARG C:409
		5	-65.375	-77.678				GLN C:567
		6	-65.412	-78.361				ARG C:405
		7	-65.442	-78.109				ASP :396
		8	-65.373	-78.937				
		9	-65.406	-79.622				
		10	-65.378	-79.825				

3.	<i>Alphitoin</i>	1	-84.351	-78.666			VAL A:203	GLN C:393
		2	-84.678	-78.693			MET A:199	HIS C:406
		3	-85.364	-77.802			ILE A:194	GLN C:633
		4	-85.359	-76.493			THR A:196	ASP C:396
		5	-84.621	-78.007			PRO A:193	PHE C:394
		6	-85.395	-77.993				ARG C:134
		7	-85.263	-78.363				SER C:392
		8	-85.189	-78.316				GLN C:390
		9	-85.244	-78.661				
		10	-85.590	-78.627				
4.	<i>Alphitolic acid</i>	1	-64.892	-65.195			ALA A:198	PRO C:444
		2	-65.423	-63.643			MET A:161	HIS C:406
		3	-66.796	-68.509			VAL A:203	GLN C:393
		4	-66.125	-66.657			ILE A:215	PHE C:394
		5	-65.234	-64.960			MET A:155	ASN C:563
		6	-67.085	-66.653			PRO A:193	ARG C:405
		7	-67.979	-69.374			PHE A:149	
		8	-66.195	-66.738			TYR A:158	
		9	-68.422	-70.275			PRO A:156	
		10	-66.420	-66.636			THR A:196	
			MET A:199					
			LEU A:218					

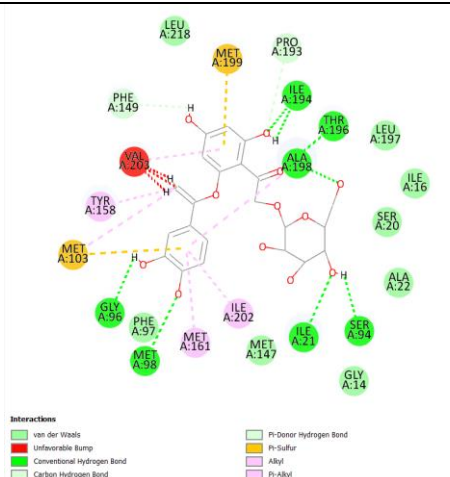
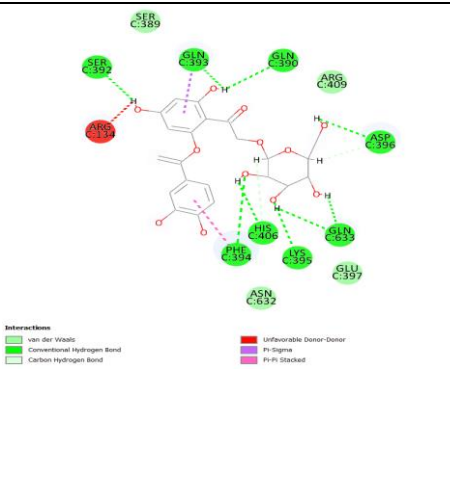
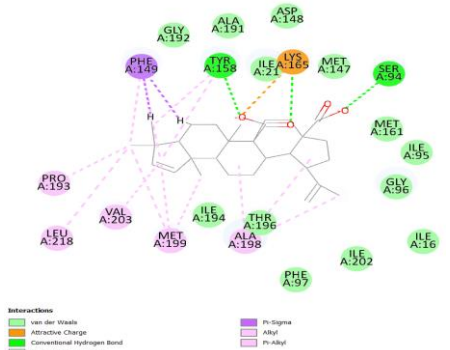
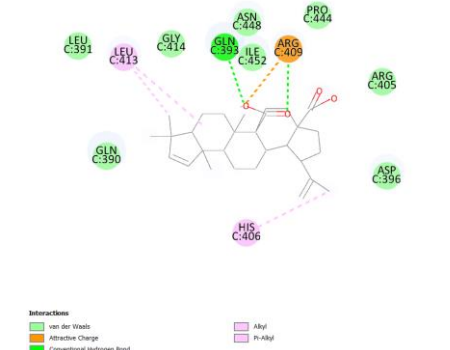
5.	<i>Ceanothic acid</i>	1	-67.922	-60.297	<p>Interactions</p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Attractive Charge</li> <li>Conventional Hydrogen Bond</li> <li>Carbon Hydrogen Bond</li> <li>Allyl</li> <li>Pr-Allyl</li> </ul>	<p>Interactions</p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Attractive Charge</li> <li>Conventional Hydrogen Bond</li> <li>Pr-Allyl</li> </ul>	ILE A:16	TYR C:998
		2	-68.663	-62.754			ILE A:21	ARG C:134
		3	-69.857	-63.662			MET A:147	PHE C:394
		4	-67.741	-63.719			ALA A:191	GLN C:633
		5	-68.144	-64.025			PHE A:149	THR C:398
		6	-68.457	-62.924			PRO A:193	
		7	-68.531	-63.210			ILE A:194	
		8	-67.589	-63.792			MET A:199	
		9	-68.753	-63.193			TYR A:158	
		10	-67.907	-63.375			SER A:20	
6.	<i>Betulinic acid</i>	1	-73.932	-64.809	<p>Interactions</p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Hydrophobic Bump</li> <li>Conventional Hydrogen Bond</li> <li>Allyl</li> <li>Pr-Allyl</li> </ul>	<p>Interactions</p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Salt Bridge</li> <li>Conventional Hydrogen Bond</li> <li>Allyl</li> <li>Pr-Allyl</li> </ul>	MET A:161	PRO C:444
		2	-74.109	-66.684			ALA A:198	HIS C:406
		3	-74.341	-65.176			PRO A:193	ARG C:405
		4	-73.613	-60.567			TYR A:158	ASN C:563
		5	-75.066	-66.126			VAL A:203	PHE C:394
		6	-74.520	-66.873			MET A:155	
		7	-74.201	-65.594			MET A:199	
		8	-74.907	-66.953			ILE A:215	
		9	-75.316	-66.150			PHE A:149	
		10	-75.534	-65.929			PRO A:156	
			THR A:196					
			LEU A:218					

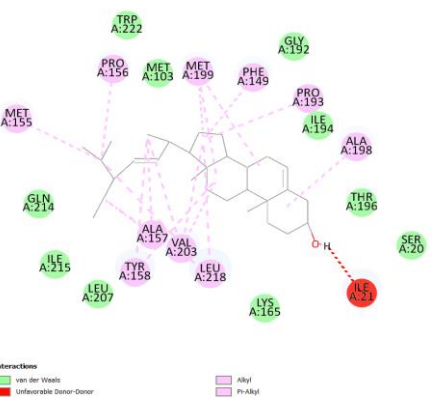
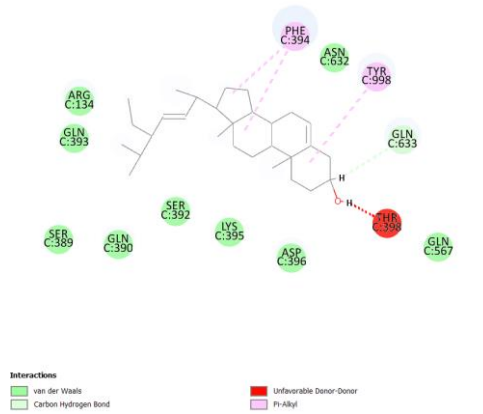
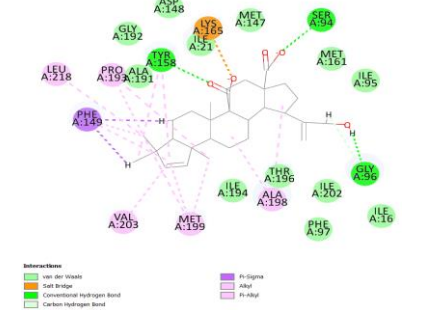
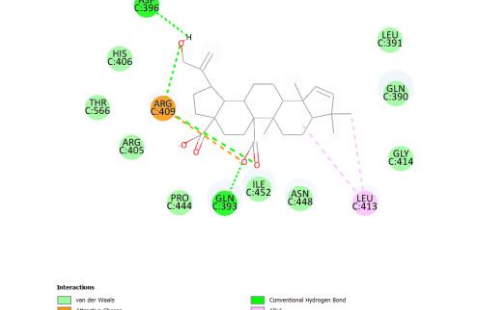
7.	<i>Betulin</i>	1	-72.429	-64.160			ILE A:21	GLN C:633
		2	-72.604	-64.613			PHE A:149	GLN C:390
		3	-73.217	-63.401			MET A:155	
		4	-72.219	-62.921			ILE A:215	
		5	-73.376	-63.244			VAL A:203	
		6	-73.019	-65.103			TYR A:158	
		7	-73.667	-63.829			PRO A:193	
		8	-74.455	-63.443			MET A:199	
		9	-74.822	-63.812			MET A:161	
		10	-74.461	-64.512			ALA A:198	
8.	<i>Isorhamnetin 3-O-β-D-glucopyranoside</i>	1	-87.231	-80.203			ILE A:202	HIS C:406
		2	-94.349	-69.052			MET A:161	ASP C:396
		3	-88.700	-79.208			ALA A:198	GLN C:633
		4	-88.527	-75.910			VAL A:203	
		5	-94.094	-72.387			TYR A:158	
		6	-93.407	-72.771			ALA A:157	
		7	-90.645	-74.820			PHE A:149	
		8	-86.646	-79.632			MET A:98	
		9	-86.583	-79.782			THR A:196	
		10	-87.719	-77.757			ILE A:194	

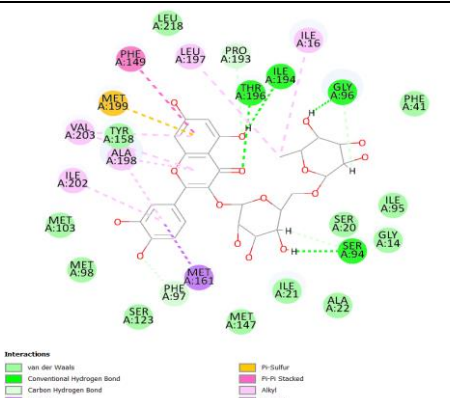
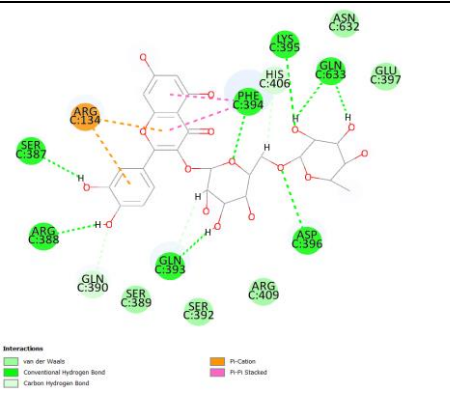
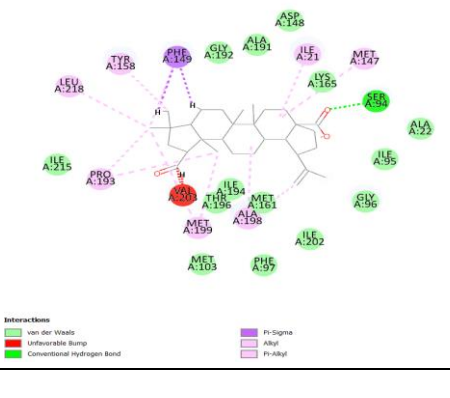
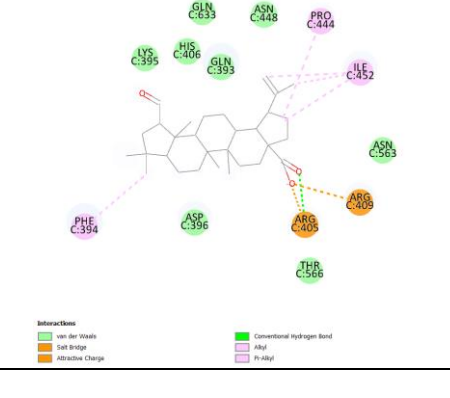
9.	<i>Linoleic acid</i>	1	<b>-107.022</b>	<b>-83.562</b>	<p>Interactions</p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Attractive Charge</li> <li>Conventional Hydrogen Bond</li> <li>Carbon Hydrogen Bond</li> <li>Allyl</li> <li>Pr-Allyl</li> </ul>	<p>Interactions</p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Salt Bridge</li> <li>Attractive Charge</li> <li>Pr-Allyl</li> </ul>	MET A:155	TYR C:998
		2	-104.893	-76.696			PRO A:156	PHE C:394
		3	-104.682	-79.790			LEU A:218	<b>HIS C:406</b>
		4	-104.902	-79.583			ALA A:157	<b>ARG C:409</b>
		5	-104.920	-77.618			VAL A:203	<b>ARG C:405</b>
		6	-104.278	-77.582			PRO A:193	
		7	-104.991	-81.072			PHE A:149	
		8	-104.766	-78.327			MET A:199	
		9	-105.490	-76.541			ILE A:194	
		10	-104.386	-80.300			<b>TYR A:158</b>	
			<b>LYS A:165</b>					
10.	<i><math>\alpha</math>-Linoleic acid</i>	1	<b>-105.898</b>	-83.950	<p>Interactions</p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Attractive Charge</li> <li>Conventional Hydrogen Bond</li> <li>Allyl</li> <li>Pr-Allyl</li> </ul>	<p>Interactions</p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Attractive Charge</li> <li>Conventional Hydrogen Bond</li> <li>Pr-Allyl</li> </ul>	ALA A:191	TYR C:998
		2	-105.023	-80.682			MET A:155	PHE C:394
		3	-105.031	-79.095			PRO A:156	HIS C:406
		4	-103.600	-85.018			ALA A:157	<b>ARG C:405</b>
		5	-104.764	-76.149			ILE A:215	<b>ASN C:563</b>
		6	-104.965	-83.371			VAL A:203	
		7	-105.398	-79.433			LEU A:218	
		8	-103.729	<b>-86.792</b>			PRO A:193	
		9	-103.352	-85.875			MET A:199	
		10	-103.295	-78.480			PHE A:149	
			<b>TYR A:158</b>					
			<b>LYS A:165</b>					

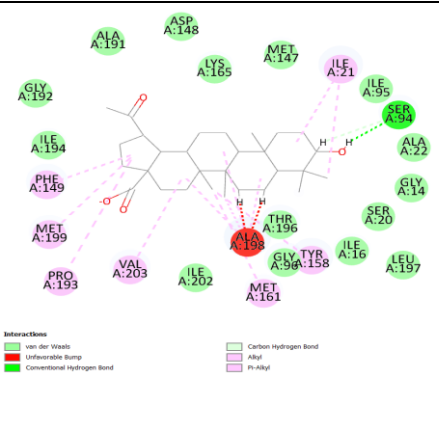
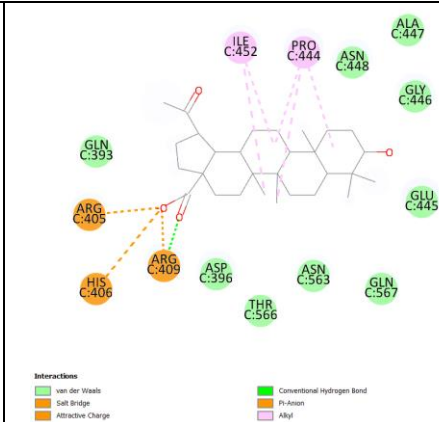
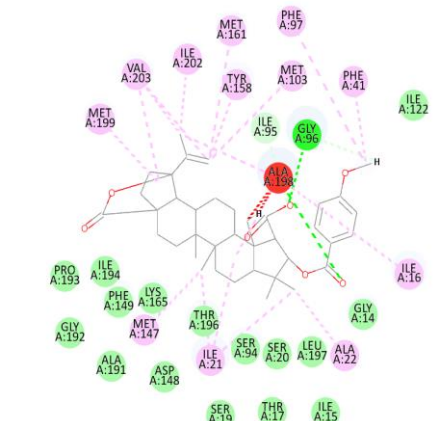
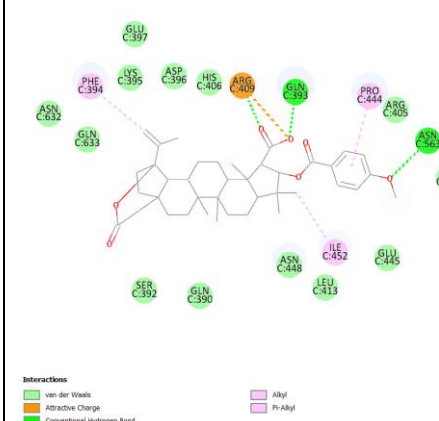
11.	<i>Lupeol</i>	1	-75.465	-61.917		<table border="1"> <tbody> <tr><td>ALA A:198</td><td>GLN C:633</td></tr> <tr><td>MET A:161</td><td></td></tr> <tr><td>TYR A:158</td><td></td></tr> <tr><td>PRO A:193</td><td></td></tr> <tr><td>MET A:199</td><td></td></tr> <tr><td>VAL A:203</td><td></td></tr> <tr><td>MET A:155</td><td></td></tr> <tr><td>ILE A:215</td><td></td></tr> <tr><td>PHE A:149</td><td></td></tr> <tr><td>ILE A:21</td><td></td></tr> <tr><td>PRO A:156</td><td></td></tr> <tr><td>LEU A:218</td><td></td></tr> <tr><td>TYR A:158</td><td>TYR C:998</td></tr> <tr><td>MET A:155</td><td>PHE C:394</td></tr> <tr><td>PHE A:149</td><td>GLN C:633</td></tr> <tr><td>ALA A:198</td><td></td></tr> <tr><td>ILE A:21</td><td></td></tr> <tr><td>MET A:147</td><td></td></tr> <tr><td>MET A:199</td><td></td></tr> <tr><td>PRO A:193</td><td></td></tr> <tr><td>LEU A:218</td><td></td></tr> <tr><td>VAL A:203</td><td></td></tr> <tr><td>ALA A:157</td><td></td></tr> <tr><td>SER A:94</td><td></td></tr> <tr><td>ALA A:22</td><td></td></tr> </tbody> </table>	ALA A:198	GLN C:633	MET A:161		TYR A:158		PRO A:193		MET A:199		VAL A:203		MET A:155		ILE A:215		PHE A:149		ILE A:21		PRO A:156		LEU A:218		TYR A:158	TYR C:998	MET A:155	PHE C:394	PHE A:149	GLN C:633	ALA A:198		ILE A:21		MET A:147		MET A:199		PRO A:193		LEU A:218		VAL A:203		ALA A:157		SER A:94		ALA A:22	
		ALA A:198	GLN C:633																																																					
		MET A:161																																																						
		TYR A:158																																																						
		PRO A:193																																																						
		MET A:199																																																						
		VAL A:203																																																						
		MET A:155																																																						
		ILE A:215																																																						
		PHE A:149																																																						
ILE A:21																																																								
PRO A:156																																																								
LEU A:218																																																								
TYR A:158	TYR C:998																																																							
MET A:155	PHE C:394																																																							
PHE A:149	GLN C:633																																																							
ALA A:198																																																								
ILE A:21																																																								
MET A:147																																																								
MET A:199																																																								
PRO A:193																																																								
LEU A:218																																																								
VAL A:203																																																								
ALA A:157																																																								
SER A:94																																																								
ALA A:22																																																								
2	-74.687	-64.936																																																						
3	-74.218	-62.767																																																						
4	-75.592	-64.080																																																						
5	-75.745	-63.727																																																						
6	-74.969	-64.422																																																						
7	-74.713	-63.712																																																						
8	-75.353	-64.000																																																						
9	-75.571	-63.568																																																						
10	-75.046	-64.667																																																						
12.	<i><math>\beta</math>-Sitosterol</i>	1	-99.416	-71.395		<table border="1"> <tbody> <tr><td>ALA A:198</td><td>GLN C:633</td></tr> <tr><td>MET A:161</td><td></td></tr> <tr><td>TYR A:158</td><td></td></tr> <tr><td>PRO A:193</td><td></td></tr> <tr><td>MET A:199</td><td></td></tr> <tr><td>VAL A:203</td><td></td></tr> <tr><td>MET A:155</td><td></td></tr> <tr><td>ILE A:215</td><td></td></tr> <tr><td>PHE A:149</td><td></td></tr> <tr><td>ILE A:21</td><td></td></tr> <tr><td>PRO A:156</td><td></td></tr> <tr><td>LEU A:218</td><td></td></tr> <tr><td>TYR A:158</td><td>TYR C:998</td></tr> <tr><td>MET A:155</td><td>PHE C:394</td></tr> <tr><td>PHE A:149</td><td>GLN C:633</td></tr> <tr><td>ALA A:198</td><td></td></tr> <tr><td>ILE A:21</td><td></td></tr> <tr><td>MET A:147</td><td></td></tr> <tr><td>MET A:199</td><td></td></tr> <tr><td>PRO A:193</td><td></td></tr> <tr><td>LEU A:218</td><td></td></tr> <tr><td>VAL A:203</td><td></td></tr> <tr><td>ALA A:157</td><td></td></tr> <tr><td>SER A:94</td><td></td></tr> <tr><td>ALA A:22</td><td></td></tr> </tbody> </table>	ALA A:198	GLN C:633	MET A:161		TYR A:158		PRO A:193		MET A:199		VAL A:203		MET A:155		ILE A:215		PHE A:149		ILE A:21		PRO A:156		LEU A:218		TYR A:158	TYR C:998	MET A:155	PHE C:394	PHE A:149	GLN C:633	ALA A:198		ILE A:21		MET A:147		MET A:199		PRO A:193		LEU A:218		VAL A:203		ALA A:157		SER A:94		ALA A:22	
		ALA A:198	GLN C:633																																																					
		MET A:161																																																						
		TYR A:158																																																						
		PRO A:193																																																						
		MET A:199																																																						
		VAL A:203																																																						
		MET A:155																																																						
		ILE A:215																																																						
		PHE A:149																																																						
ILE A:21																																																								
PRO A:156																																																								
LEU A:218																																																								
TYR A:158	TYR C:998																																																							
MET A:155	PHE C:394																																																							
PHE A:149	GLN C:633																																																							
ALA A:198																																																								
ILE A:21																																																								
MET A:147																																																								
MET A:199																																																								
PRO A:193																																																								
LEU A:218																																																								
VAL A:203																																																								
ALA A:157																																																								
SER A:94																																																								
ALA A:22																																																								
2	-100.171	-77.976																																																						
3	-100.918	-78.980																																																						
4	-100.635	-77.097																																																						
5	-100.425	-73.013																																																						
6	-102.141	-77.161																																																						
7	-100.703	-79.484																																																						
8	-100.738	-79.205																																																						
9	-100.129	-78.366																																																						
10	-99.355	-79.434																																																						



13.	<i>Quarctetin 3-O-β-D-glucopyranoside</i>	1	-89.934	-75.970	 <p>Interactions</p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Unfavorable Bump</li> <li>Conventional Hydrogen Bond</li> <li>Carbon Hydrogen Bond</li> <li>π-Donor Hydrogen Bond</li> <li>π-Sulfur</li> <li>Allyl</li> <li>π-Allyl</li> </ul>	 <p>Interactions</p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Conventional Hydrogen Bond</li> <li>Carbon Hydrogen Bond</li> <li>Unfavorable Donor-Donor</li> <li>π-Strigma</li> <li>π-π Stacked</li> </ul>	ILE A:202	ARG C:134
		2	-96.088	-77.818			MET A:199	SER C:392
		3	-99.774	-77.732			TYR A:158	GLN C:393
		4	-98.601	-83.317			TYR A:158	GLN C:390
		5	-94.736	-77.763			MET A:103	MET A:98
		6	-94.390	-74.661			PHE A:149	ILE A:21
		7	-93.892	-80.110			TYR A:158	SER A:94
		8	-92.082	-73.709			MET A:103	ALA A:198
		9	-100.388	-84.593			MET A:103	THR A:196
		10	-100.641	-86.920			MET A:103	PHE C:394
14.	<i>Ceanothenic acid</i>	1	-81.812	-59.803	 <p>Interactions</p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Attractive Charge</li> <li>Conventional Hydrogen Bond</li> <li>Carbon Hydrogen Bond</li> <li>π-Strigma</li> <li>Allyl</li> <li>π-Allyl</li> </ul>	 <p>Interactions</p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Attractive Charge</li> <li>Conventional Hydrogen Bond</li> <li>Allyl</li> <li>π-Allyl</li> </ul>	PRO A:193	LEU C:413
		2	-81.079	-60.158			LEU A:218	HIS C:406
		3	-81.207	-60.018			VAL A:203	VAL A:203
		4	-81.627	-59.172			LEU A:218	ARG C:409
		5	-81.065	-60.138			LEU A:218	GLN C:393
		6	-82.027	-58.831			VAL A:203	ALA A:198
		7	-81.408	-59.410			LEU A:218	PHE A:149
		8	-81.178	-59.146			LEU A:218	TYR A:158
		9	-81.693	-60.193			LEU A:218	SER A:94
		10	-80.883	-59.446			LEU A:218	LYS A:165

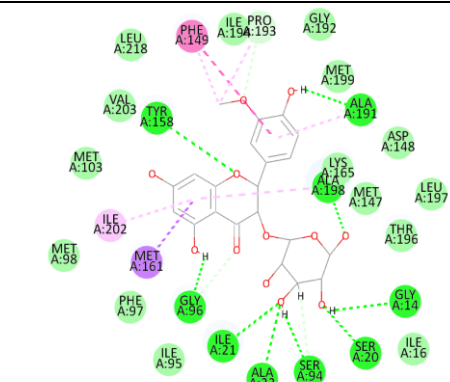
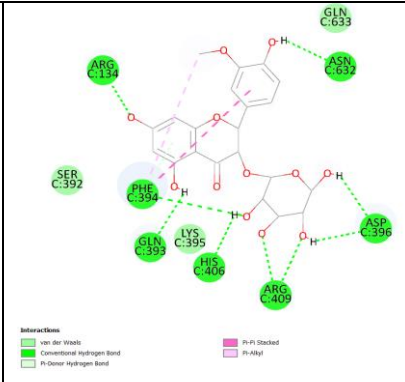
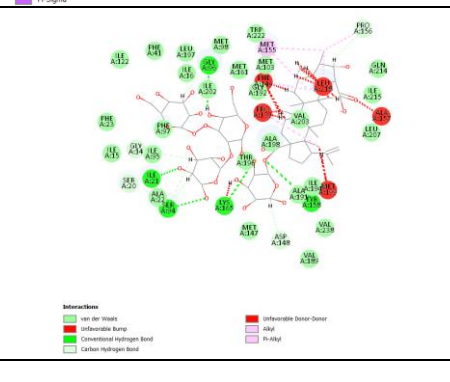
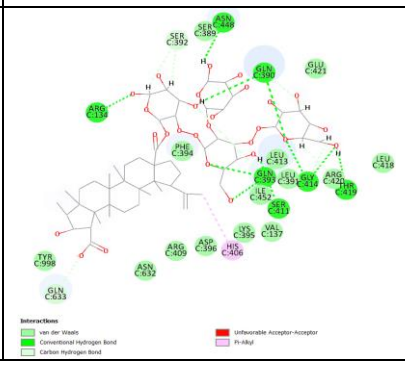
15.	<i>Stigmasterol</i>	1	-98.374	-77.339	 <p>Interaktionen  <span style="color: green;">■</span> van der Waals  <span style="color: red;">■</span> Unfavorable Donor-Donor  <span style="color: pink;">■</span> Pi-Alkyl  <span style="color: purple;">■</span> Pi-PiAlkyl</p>	 <p>Interaktionen  <span style="color: green;">■</span> van der Waals  <span style="color: lightgreen;">■</span> Carbon-Hydrogen Bond  <span style="color: red;">■</span> Unfavorable Donor-Donor  <span style="color: pink;">■</span> Pi-Alkyl</p>	ALA A:198	GLN C:633
		2	-97.744	-78.732			PRO A:193	PHE C:394
		3	-97.249	-77.711			PHE A:149	TYR C:998
		4	-99.192	-77.343			MET A:199	THR C:398
		5	-99.486	-77.034			PRO A:156	
		6	-98.684	-77.145			MET A:155	
		7	-98.861	-77.038			TYR A:158	
		8	-99.928	-77.902			ALA A:157	
		9	-98.356	-76.400			VAL A:203	
		10	-98.056	-78.048			LEU A:218	
16.	<i>29-Hydroxyceanothenic acid</i>	1	-86.596	-65.821	 <p>Interaktionen  <span style="color: purple;">■</span> Pi-Sigma  <span style="color: orange;">■</span> Salt Bridge  <span style="color: green;">■</span> Conventional Hydrogen Bond  <span style="color: lightgreen;">■</span> Carbon-Hydrogen Bond  <span style="color: pink;">■</span> Pi-Alkyl</p>	 <p>Interaktionen  <span style="color: green;">■</span> van der Waals  <span style="color: green;">■</span> Conventional Hydrogen Bond  <span style="color: orange;">■</span> Attractive Charge  <span style="color: pink;">■</span> Pi-Alkyl</p>	PRO A:193	ARG C:409
		2	-86.329	-61.168			LEU A:218	ASP C:396
		3	-87.359	-64.599			VAL A:203	GLN C:393
		4	-86.460	-60.359			MET A:199	LEU C:413
		5	-85.707	-65.106			ALA A:198	
		6	-85.483	-64.691			PHE A:149	
		7	-85.446	-65.911			TYR A:158	
		8	-85.744	-65.422			GLY A:96	
		9	-84.369	-62.814			SER A:94	
		10	-82.651	-63.293			LYS A:165	

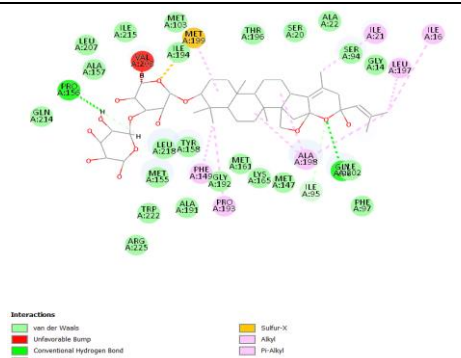
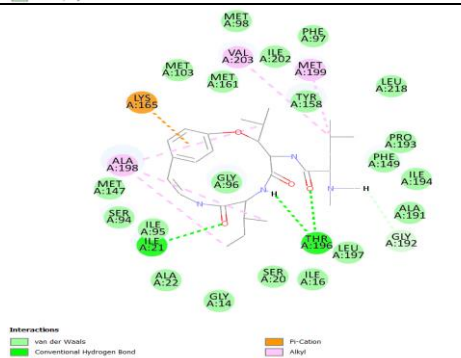
17.	<i>Rutin</i>	1	-111.556	-94.255			ILE A:16	ARG C:134
		2	-102.391	-90.324			LEU A:197	SER C:387
		3	-99.679	-89.760			VAL A:203	ARG C:388
		4	-100.090	-89.866			ALA A:198	GLN C:393
		5	-100.564	-91.600			ILE A:202	ASP C:396
		6	-101.613	-90.867			PHE A:149	GLN C:633
		7	-107.594	-93.317			MET A:161	LYS C:395
		8	-101.803	-91.731			SER A:94	PHE C:394
		9	-101.803	-93.946			GLY A:96	GLN C:390
		10	-106.836	-90.880			ILE A:194	HIS C:406
18.	<i>2<math>\alpha</math>-formyl-A(1)norlup-20(29)en-28-oic acid.</i>	1	-71.694	-61.278			THR A:196	
		2	-72.601	-61.049			MET A:147	ARG C:409
		3	-72.551	-60.950			ILE A:21	ARG C:405
		4	-73.443	-60.924			TYR A:158	PHE C:394
		5	-72.275	-61.466			LEU A:218	PRO C:444
		6	-73.351	-60.862			PRO A:193	ILE C:452
		7	-68.717	-65.186			MET A:199	
		8	-69.500	-65.236			ALA A:198	
		9	-70.219	-66.108			PHE A:149	
		10	-72.868	-62.267			SER A:94	
			VAL A:203					

19.	<i>Platanic acid</i>	1	-76.064	-63.288	 <p><b>Interactions</b></p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Unfavorable Bump</li> <li>Conventional Hydrogen Bond</li> <li>Carbon Hydrogen Bond</li> <li>Alkyl</li> <li>Pi-Alkyl</li> </ul>	 <p><b>Interactions</b></p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Salt Bridge</li> <li>Attractive Charge</li> <li>Conventional Hydrogen Bond</li> <li>Pi-Anion</li> <li>Alkyl</li> </ul>	ILE A:21	ARG C:405
		2	-79.939	-64.535			PHE A:149	ARG C:409
		3	-80.542	-64.377			MET A:199	HIS C:406
		4	-71.480	-65.732			PRO A:193	ILE C:452
		5	-77.919	-64.230			VAL A:203	PRO C:444
		6	-75.074	-64.748			MET A:161	ASN C:448
		7	-78.352	-64.468			TYR A:158	GLY C:446
		8	-73.506	-64.805			SER A:94	GLU C:445
		9	-75.605	-65.065			ALA A:198	GLN C:567
		10	-72.266	-65.290				
20.	<i>Alphitexolide</i>	1	-72.057	-78.043	 <p><b>Interactions</b></p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Unfavorable Bump</li> <li>Conventional Hydrogen Bond</li> <li>Carbon Hydrogen Bond</li> <li>Alkyl</li> <li>Pi-Alkyl</li> </ul>	 <p><b>Interactions</b></p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Attractive Charge</li> <li>Conventional Hydrogen Bond</li> <li>Pi-Alkyl</li> </ul>	PHE A:41	PRO C:444
		2	-68.300	-71.055			PHE A:97	ILE C:452
		3	-68.310	-76.949			MET A:103	PHE C:394
		4	-70.357	-77.546			TYR A:158	ARG C:409
		5	-69.248	-81.065			MET A:161	GLN C:393
		6	-67.237	-80.695			ILE A:202	ASN C:563
		7	-66.564	-75.470			VAL A:203	
		8	-67.302	-77.127			MET A:199	
		9	-63.599	-79.017			MET A:147	
		10	-64.069	-80.159			ILE A:21	
			ALA A:22					
			ILE A:16					
			GLY A:96					
			ALA A:198					

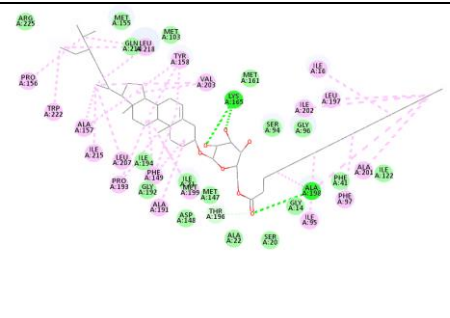
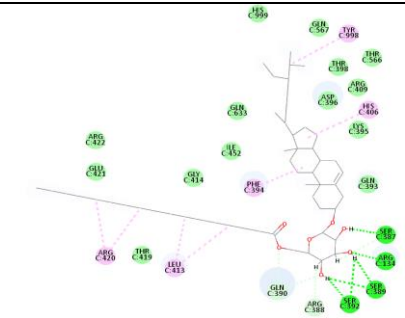
21.	<i>Maesopsin</i>	1	-84.787	-75.506	<p>Interaktions            von der Waals            Conventional Hydrogen Bond            Carbon Hydrogen Bond            Pi-Allyl</p>	<p>Interaktions            von der Waals            Conventional Hydrogen Bond            Pi-Amino            Pi-Pi Stacked</p>	MET A:199	HIS C:406
		2	-85.389	-75.176			VAL A:203	THR C:398
		3	-85.726	-72.463			THR A:196	GLN C:633
		4	-85.561	-75.574			ILE A:194	ARG C:409
		5	-85.851	-70.950				PHE C:394
		6	-85.680	-75.815				ASP C:396
		7	-84.890	-74.511				
		8	-84.622	-74.070				
		9	-84.832	-75.591				
		10						
22.	<i>Uridin</i>	1	-75.048	-65.430	<p>Interaktions            von der Waals            Conventional Hydrogen Bond            Carbon Hydrogen Bond            Invertible Donor-Donor            Pi-Pi T-Stacked            Pi-Allyl</p>	<p>Interaktions            von der Waals            Conventional Hydrogen Bond            Carbon Hydrogen Bond            Pi-Allyl</p>	PRO A:193	LEU C:413
		2	-75.124	-65.373			VAL A:203	GLN C:393
		3	-75.305	-62.513			PHE A:149	GLN C:390
		4	-76.567	-66.121			MET A:199	GLY C:414
		5	-75.216	-62.636			GLY A:192	THR C:419
		6	-75.115	-63.642			ILE A:194	SER C:411
		7	-73.803	-60.230				
		8	-73.953	-60.412				
		9	-73.772	-60.475				
		10						

23.	<i>Isorhamnetin 3-O-(6''-O-(Z)-p-coumaroyl)-β-D-glucopyranoside</i>	1	-107.785	<b>-95.570</b>	<p>Interactions</p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Conventional Hydrogen Bond</li> <li>Carbon Hydrogen Bond</li> <li>Unfavorable Donor-Donor</li> <li>Pi-Sulfur</li> <li>Alkyl</li> <li>Pi-Alkyl</li> </ul>	<p>Interactions</p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Conventional Hydrogen Bond</li> <li>Carbon Hydrogen Bond</li> <li>Pi-Donor Hydrogen Bond</li> <li>Pi-Alkyl</li> </ul>	LEU A:218	LEU C:413
		2	-107.315	-90.031			ALA A:157	GLN C:390
		3	-108.232	-85.155			ILE A:21	ARG C:409
		4	-99.024	-89.933			ILE A:16	GLN C:393
		5	-104.296	-92.734			ALA A:198	ARG C:134
		6	<b>-111.918</b>	-91.952			ILE A:202	PHE C:394
		7	-109.692	-85.765			TYR A:158	GLN C:633
		8	-104.966	-77.488			ALA A:191	
		9	-106.425	-88.718			GLY A:192	
		10	-106.984	-82.155			PRO A:156	
			MET A:103					
			MET A:161					
			MET A:155					
			ALA A:22					
24.	<i>3-O-β-D-Galactopyranosyl-quercetin</i>	1	<b>-106.195</b>	-79.408	<p>Interactions</p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Conventional Hydrogen Bond</li> <li>Carbon Hydrogen Bond</li> <li>Unfavorable Donor-Donor</li> <li>Pi-Sulfur</li> <li>Pi-Alkyl</li> </ul>	<p>Interactions</p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Conventional Hydrogen Bond</li> <li>Carbon Hydrogen Bond</li> <li>Pi-Donor Hydrogen Bond</li> <li>Pi Pi Stacked</li> </ul>	ILE A:202	ASN C:632
		2	-106.052	-79.379			MET A:161	ASP C:396
		3	-105.585	-80.657			ALA A:198	ARG C:409
		4	-105.931	-79.704			VAL A:203	HIS C:406
		5	-105.116	-79.195			GLY A:192	GLN C:393
		6	-104.835	-78.787			ASP A:148	ARG C:134
		7	-105.753	-79.476			LYS A:165	PHE C:394
		8	-105.816	<b>-89.045</b>			THR A:196	
		9	-104.029	-81.248			ILE A:194	
		10	-103.895	-87.615			MET A:199	
			MET A:103					

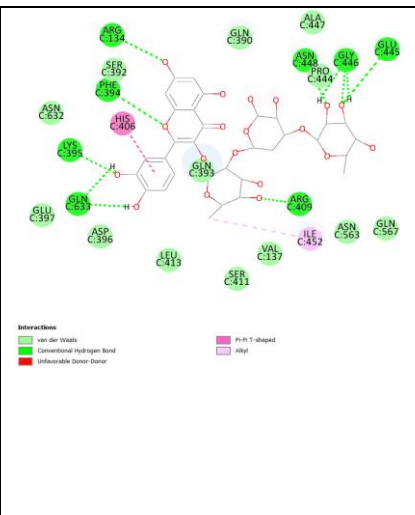
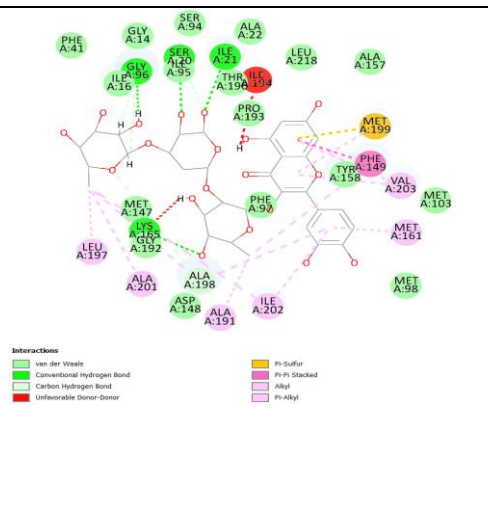
25.	<i>3-O-β-D-Galactopyranosyl-isorhamnetin</i>	1	-100.378	-88.404	 <p>Interactions</p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Conventional Hydrogen Bond</li> <li>Carbon Hydrogen Bond</li> <li>Pi-Sigma</li> <li>Ph-Ph Stacked</li> <li>Allyl</li> <li>Ph-Allyl</li> </ul>	 <p>Interactions</p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Conventional Hydrogen Bond</li> <li>Ph-Ph Stacked</li> <li>Ph-Allyl</li> </ul>	ILE A:202	ASN C:632
		2	-100.803	-81.917			PHE A:149	ASP C:396
		3	-100.031	-81.515			MET A:161	ARG C:409
		4	-99.813	-81.726			PRO A:193	HIS C:406
		5	-100.257	-82.014			ALA A:191	GLN C:393
		6	-100.972	-83.885			ALA A:198	ARG C:134
		7	-99.509	-81.909			GLY A:14	PHE C:394
		8	-100.586	-81.623			SER A:20	
		9	-97.960	-81.714			SER A:94	
		10	-100.020	-89.052			ALA A:22	
26.	<i>28-O-β-D-Glucopyranosyl-(1→3)-[β-Dglucopyranosyl-(1→2)]-β-D-lucopyranosyl-(1→2)-β-D-glucopyranosylceanothic acid</i>	1	153.399	-113.046	 <p>Interactions</p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Allyl</li> <li>Conventional Hydrogen Bond</li> <li>Carbon Hydrogen Bond</li> <li>Unfavorable Donor-Donor</li> <li>Ph-Allyl</li> </ul>	 <p>Interactions</p> <ul style="list-style-type: none"> <li>van der Waals</li> <li>Conventional Hydrogen Bond</li> <li>Carbon Hydrogen Bond</li> <li>Unfavorable Acceptor-Acceptor</li> <li>Ph-Allyl</li> </ul>		HIS C:406
		2	80.704	-111.461				ARG C:134
		3	133.154	-104.334				ASN C:448
		4	137.016	-102.792				GLN C:390
		5	140.122	-102.179				THR C:419
		6	146.056	-111.044				GLY C:414
		7	163.690	-102.287				GLN C:393
		8	93.983	-102.551				SER C:411
		9	135.539	-96.168				ARG C:420
		10	152.377	-106.870				SER C:392
					GLN C:633			

27.	<i>3-O-β-D-Glucopyranosyl-(1→3)-α-arabinopyranosyl-17,20-didehydro-20-deoxyjubogenin</i>	1	-68.835	<b>-87.615</b>		ILE A:21	LEU C:413
		2	-69.895	-84.572		ILE A:16	ILE C:452
		3	-70.299	-81.982		LEU A:197	HIS C:999
		4	-70.499	-85.010		ALA A:198	GLN C:567
		5	-70.684	-82.836		PRO A:193	ASN C:563
		6	-70.325	-81.152		PHE A:149	GLN C:393
		7	-70.738	-84.607		<b>VAL A:203</b>	GLN C:390
		8	<b>-71.665</b>	-85.716		<b>MET A:199</b>	ARG C:388
		9	-70.360	-85.723		GLY A:96	ARG C:134
		10	-58.980	-82.968		PRO A:156	SER C:392
28.	<i>Adouetine X</i>	1	-100.250	-73.872		VAL A:203	
		2	-101.353	-75.543		MET A:199	
		3	-103.081	-73.521		ALA A:198	
		4	<b>-105.980</b>	-76.235		LYS A:165	
		5	-99.334	-69.630		THR A:196	
		6	-96.481	-67.001		ILE A:21	
		7	-101.414	-71.424			
		8	-94.565	-74.344			
		9	-102.146	-72.682			
		10		-98.457		-72.376	



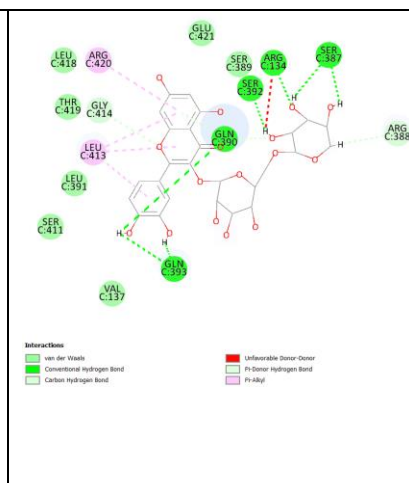
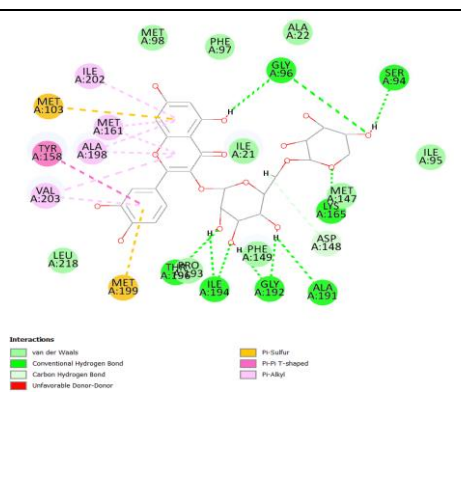
29.	<i>6'-Heptadecanoyl-3-O-β-Dglucopyranosylsitosterol</i>	1	-125.413	-125.417			ILE A:16	TYR C:998
		2	-129.815	-118.308			LEU A:197	HIS C:406
		3	-106.737	-111.446			ILE A:202	PHE C:394
		4	-114.487	-108.322			ALA A:201	LEU C:413
		5	6.665	-116.472			PHE A:97	ARG C:420
		6	-130.934	-119.773			ILE A:95	SER C:387
		7	-98.845	-112.524			MET A:199	ARG C:134
		8	-94.323	-109.465			ALA A:191	SER C:389
		9	-87.549	-108.570			PHE A:149	SER C:392
		10	-108.587	-112.235			PRO A:193	ARG C:388
						LEU A:207	GLN C:490	
						ILE A:215		
						ALA A:157		
						TRP A:222		
						PRO A:156		
						LEU A:218		
						TYR A:158		
						VAL A:203		
						ALA A:198		
						LYS A:165		

30.	<i>Quercetin 3-O-<math>\alpha</math>-L-rhamnopyranosyl (1<math>\rightarrow</math>2)-<math>\alpha</math>-L-arabinopyranosyl (1<math>\rightarrow</math>2)-<math>\alpha</math>-L-rhamnopyranoside</i>	1	-102.704	-96.245
		2	-80.489	-86.476
		3	-75.318	-84.044
		4	-98.533	-94.939
		5	-79.304	-77.702
		6	-80.976	-87.449
		7	-80.083	-96.038
		8	-79.880	-90.194
		9	-78.755	-82.634
		10	-74.835	-81.487



LEU A:197	ILE C:452
ALA A:201	HIS C:406
ALA A:191	GLU C:445
ILE A:202	GLY C:446
MET A:161	ASN C:448
VAL A:203	ARG C:134
PHE A:149	PHE C:394
ILE A:194	LYS C:395
MET A:199	GLN C:633
LYS A:165	ARG C:409
GLY A:96	
SER A:20	
ILE A:21	
ILE A:95	
MET A:147	

31.	3-O- $\alpha$ -L-Arabinopyranosyl-(1 $\rightarrow$ 2)- $\alpha$ -L-rhamnopyranosylkaempferol	1	-101.732	-80.507
		2	-101.446	-79.795
		3	-99.909	-74.484
		4	-100.221	-73.552
		5	-101.761	-74.994
		6	-101.413	-82.208
		7	-97.687	-74.401
		8	-97.431	-76.223
		9	-99.845	-86.996
		10	-98.593	-77.071



ILE A:202	ARG C:420
MET A:161	LEU C:413
ALA A:198	SER C:387
VAL A:203	ARG C:134
TYR A:158	SER C:392
MET A:103	GLN C:390
MET A:199	GLN C:393
GLY A:96	GLY C:414
SER A:94	ARG C:388
LYS A:165	
ALA A:191	
GLY A:192	
ILE A:194	
THR A:196	
ASP A:148	

32.	<i>3-O-β-D-Xylopyranosyl-(1→2)-α-Lrhamnopyranosylkaempferol</i>	1	-98.492	-73.165		<table border="1"> <tr><td>ILE A:202</td><td>ARG C:420</td></tr> <tr><td>MET A:161</td><td>LEU C:413</td></tr> <tr><td>ALA A:198</td><td>SER C:387</td></tr> <tr><td>VAL A:203</td><td>ARG C:134</td></tr> <tr><td>TYR A:158</td><td>SER C:392</td></tr> <tr><td>MET A:103</td><td>GLN C:393</td></tr> <tr><td>MET A:199</td><td>GLN C:390</td></tr> <tr><td>MET A:98</td><td>ARG C:388</td></tr> <tr><td>SER A:94</td><td>GLY C:414</td></tr> <tr><td>GLY A:96</td><td></td></tr> <tr><td>LYS A:165</td><td></td></tr> <tr><td>ALA A:191</td><td></td></tr> <tr><td>GLY A:192</td><td></td></tr> <tr><td>THR A:196</td><td></td></tr> <tr><td>ILE A:194</td><td></td></tr> <tr><td>ASP A:148</td><td></td></tr> </table>	ILE A:202	ARG C:420	MET A:161	LEU C:413	ALA A:198	SER C:387	VAL A:203	ARG C:134	TYR A:158	SER C:392	MET A:103	GLN C:393	MET A:199	GLN C:390	MET A:98	ARG C:388	SER A:94	GLY C:414	GLY A:96		LYS A:165		ALA A:191		GLY A:192		THR A:196		ILE A:194		ASP A:148	
		ILE A:202	ARG C:420																																			
		MET A:161	LEU C:413																																			
		ALA A:198	SER C:387																																			
		VAL A:203	ARG C:134																																			
		TYR A:158	SER C:392																																			
		MET A:103	GLN C:393																																			
		MET A:199	GLN C:390																																			
		MET A:98	ARG C:388																																			
		SER A:94	GLY C:414																																			
GLY A:96																																						
LYS A:165																																						
ALA A:191																																						
GLY A:192																																						
THR A:196																																						
ILE A:194																																						
ASP A:148																																						
2	-101.486	-80.189																																				
3	-99.854	-78.511																																				
4	-101.435	-72.174																																				
5	-101.329	-82.182																																				
6	-99.993	-76.621																																				
7	-97.814	-83.367																																				
8	-97.724	-78.863																																				
9	-100.292	-77.116																																				
10	-98.460	-77.690																																				

