







Research Area

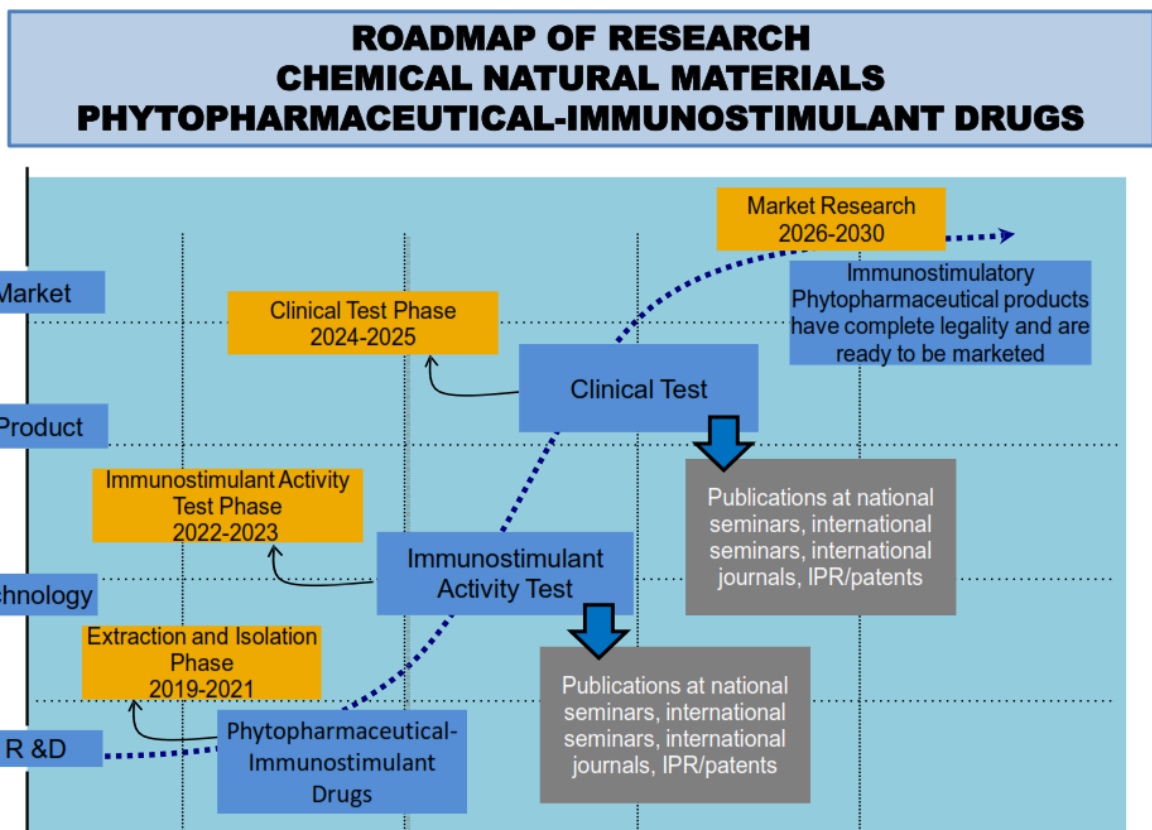
Natural Product Chemistry

Phytopharmaceutical-Immunostimulant Drugs

This research is focused on Natural Product Chemistry which are applied in the health sector, especially utilization as medicinal plants derived from the exploration of active compounds of Indonesian plants. The phytochemical methods used include the isolation and determination of the structure of organic molecules with various instruments such as UV, IR, NMR and HR-ESI-MS which will later be applied as bioassay applications such as antioxidants, anti-inflammatory, anticancer, and other tropical diseases.

Personnel		
Research Team: Area Chemistry of Natural Product: Phytopharmaceutical-Immunostimulant Drugs		
	Prof. Dr. Suyatno, M.Si.	Research Area: Natural Product Chemistry Bioassay: Phytopharmaceutical-Immunostimulant Drugs
	Prof. Dr. Tukiran, M.Si.	Research Area: Natural Product Chemistry Bioassay: Phytopharmaceutical-Immunostimulant Drugs
	Dr. Ratih Dewi Saputri, M.Si.	Research Area: Natural Product Chemistry, (Phytochemistry and Active compounds for tropical diseases)
	Dr. First Ambar Wati, S.Si.	Research Area: Synthesis of Bioactive Compounds

Personnel		
Research Team: Area Chemistry of Natural Product: Phytopharmaceutical-Immunostimulant Drugs		
	Nurina Rizka Ramadhania, S.Si., M.Si.	Research Area: Natural Product Chemistry and Aromateraphy
	Dr. Andika Pramudya Wardana, S.Si., M.Si.	Research Area: Natural Product Chemistry and Nanochemistry



Research Project:

1. Looking for the Optimum Composition of Secang (*Caesalpinia Sappan* L.) and Red Ginger (*Zingiber Ofale* Roxb.) Extracts which are Effective as Anti-Arthritis Agents (DRPM, 2020)
2. Herbal Effervescent Tablet Formulation to Boost Body Immunity to Prevent Covid-19 (PNBP UNESA, 2020)
3. Synthesis of Silver Nanoparticles Using *Nephrolepis Radicans* Fern Extract Bioreductors as Antioxidants (PNBP UNESA, 2020)
4. Looking for the Optimum Composition of Secang (*Caesalpinia Sappan* L.) and Red Ginger (*Zingiber Ofale* Roxb.) Extracts which are Effective as Anti-Arthritis Agents (DRPM, 2020)
5. Efficacy of Protein-Multivitamin Supplement Drinks Made of Local Ingredients to Boost Immunity During the Covid-19 Pandemic for the Elderly (DRPM, 2021)
6. Nanoherbal Synthesis of Ethanol Extract of *Selaginella doederleinii* Hieron Fern as Antioxidant and Antibacterial Material (LPPM UNESA, 2022)
7. Potential of Isoprenylated Xanthone Compounds from Bintangor Plants (*Calophyllum pseudomole*) in Inhibiting Xanthine Oxidase (DRPM, 2023)
8. Development of Self Nanoemulsifying Drug Delivery System (SNEDDS) Synergy of Ethanol Extract of Sembukan Leaves (*Paederia foetida* Linn.) and Green Betel Leaves (*Piper betle* Linn.) as an Effectiveness Enhancer for Hyperlipidemia Therapy (LPPM UNESA, 2023)
9. Design and Synthesis of New Cinnamamide Compounds as Lung Cancer Drug Candidates (LPPM UNESA, 2023)
10. Hypoglycemic Potential of Sangket Leaf Extract on Blood Glucose Levels as an Antidiabetic Agent in Silico and in Vitro (LPPM UNESA, 2023)
11. Explorations of New Compounds of Terpenyl-Flavanone Derivatives from the Plant *Macaranga Hullettii* King Ex Hook. F Endemic in Kalimantan as a Candidate for New Malaria Drug (LPPM UNESA, 2023)
12. Indonesian Herbal Nanoencapsulation Using Modified Chitosan as a Breast Cancer Preventive Supplement (LPPM UNESA, 2023)
13. Potential of Wild Tantan Leaf Extract (*Desmanthus Virgatus* (L.)) as an Antidiabetes Agent in Silico and In Vitro (LPPM UNESA, 2024)
14. Phytochemical Screening and Antioxidant Potential of Wild Tantan (*Desmanthus Virgatus* (L)) Ethanol Extract in Vitro (LPPM UNESA, 2024)
15. Potential of Methanol Extract of Maja Fruit (*Aegle marmelos* L.) as Antibacterial (*Corynebacterium minutissimum*) In Silico and In Vitro (LPPM UNESA, 2024)
16. Anti-Dengue Activity of Maja Fruit (*Aegle marmelos* L.) (LPPM UNESA, 2024)
17. Secondary Metabolite Profile of *Phyllanthus niruri* and *Sauropus androgynus* Extracts and Their Potential as Antibacterials (LPPM UNESA, 2024)
18. Application of Nano TiO₂ as a Photocatalyst of Red Betel Extract to Increase Antibacterial Activity (LPPM UNESA, 2024)
19. The Potential of *Tinospora Cordifolia* and *Moringa Oleifera* as Candidates for Breast and Prostate Cancer Drugs In Vitro and in Silico (LPPM UNESA, 2024)
20. Exploration of Prenylated Xanthone Compounds from *Garcinia Rigida* Plants Endemic to Eastern Indonesia as Candidate Drugs for Breast and Uterine Cancer (LPPM UNESA, 2024)
21. Scientification of Herb Infused Honey as a Candidate Source of Multifunctional Supplements for National Drug Independence (LPPM UNESA, 2024)
22. Effectiveness Test of Cinnamon-Nanosilver Formulation as an Alternative Treatment for Diabetic Ulcers Using a Combination of In Vivo and In Silico Methods (LPPM UNESA, 2024)

Patent/Intellectual Property Rights:

1. Method of Preparation of Silver Nanoparticles Using Bioreductor Methanol Extract of Nephrolepis Radicans Fern Extract (2021, ID: P00202103479)
2. Method Of Preparation of Silver Nanoparticles Using Bioreductor Methanol Extract Nephrolepis radicans (2021, ID: P00202103479)
3. Synthesis Of Organic Chemistry (2020, Hak Cipta, Ec00202013685)
4. The Process of Making Protein-Multivitamin Drinks from Raw Almond Filtrate and Tempeh Filtrate as Health Supplements for The Elderly (2020, ID: P002002009035)
5. The Process of Making Probiotic Food from Shrimp Waste for Laying Ducks (2018, ID: P00201803107)
6. Method Of Isolation Gallic Acid Compounds From Stem Bark "Gowok" (Syzygium Polycephalum) (2018, ID: P00201802291)
7. Methods In Individual-Based Independent Lectures (2018, ID: P00201806031)
8. Partial Synthesis of Farrerol as Antibronehitis Agent from Matteucinol Isolated from The Fern Chingia Sakayensis Using Hydrobomic Acid Reagent (2017, ID: C00201702814)
9. Flavonoids From Indonesian Silver Fern (Pityrogramma Calomelanos) And Their Cytotoxicity Against Marine Leukemia P-388cells (2017, ID: C00201702749)
10. Determination of Molecular Structure of Organic Compounds (2017, ID: C00201602718)
11. Determination of the Molecular Structure of Organic Compounds (2016, ID: C00201602718)
12. The Process of Making Farrerol Compounds with Matteucinol as The Initial Material Isolated from Chinga Sakayensis (2016, ID: P00201604795)
13. The Process of Making Instant Herbal "Keji Beling" (2016, ID: P00201604804)

Publication

No.	Year	Title	Name of Journal	Quartil	Category	URL/DOI
1	2019	Chemical components and antioxidant activities of methanol extract of <i>Syzygium polycephalum</i> Miq. stem bark (Myrtaceae)	Indian Journal of Natural Products and Resources	Q4	Article	http://op.niscair.res.in/index.php/IJNPR/article/view/20797
2	2019	Specific capacitance of composite electrode activated carbon/rGO of coconut shell (<i>Cocos nucifera</i>) as supercapacitor electrode	Journal of Physics: Conference Series,	Q4	Conference Proceedings	https://iopscience.iop.org/article/10.1088/1742-6596/1171/1/012036
3	2019	Immunostimulant activity of steroid compound from the Indonesian silver fern (<i>P. calomelanos</i>)	Journal of Physics: Conference Series	Q4	Conference Proceedings	https://iopscience.iop.org/article/10.1088/1742-6596/1317/1/012040/pdf
4	2020	Two new 2-arylbenzofurans from <i>Sesbania grandiflora</i> L. and their cytotoxicity towards cancer cell	Natural Product Research	Q2	Article	DOI: 10.1080/14786419.2020.1821016
5	2020	Two new pyranoxanthones from the stem bark of <i>Calophyllum pseudomolle</i> P.F. Stevens	Natural Product Research	Q2	Article	DOI: 10.1080/14786419.2020.1808638
6	2020	A new cinnamyl acid derivative from the roots of <i>Willughbeia coriacea</i> Wall	Natural Product Science	Q3	Article	DOI:10.20307/nps.2020.26.1.79
7	2021	Alkaloid and benzopyran compounds of <i>Melicope latifolia</i> fruit exhibit anti-hepatitis C virus activities	BMC Complementary Medicine and Therapies	Q1	Article	DOI: 10.1186/s12906-021-03202-8
8	2021	Cytotoxicity evaluation of two new chalcones from the leaves of <i>Flemingia macrophylla</i> (Willd.) Merr	Phytochemistry Letters	Q2	Article	https://doi.org/10.1016/j.phytol.2021.06.006
9	2021	Three novel quinolinone alkaloids from the leaves of <i>Melicope denhamii</i>	Natural Product Research	Q2	Article	DOI: 10.1080/14786419.2021.1960524
10	2021	Macasiamenene v, a new stilbenoid from the leaves of <i>Macaranga inermis</i>	Natural Product Science	Q3	Article	DOI:10.20307/nps.2021.27.1.45
11	2021	Calodioscurins A and B, two new isoprenylated xanthones from the stem bark of <i>Calophyllum dioscurii</i> P.F. Stevens	Natural Product Research	Q2	Article	DOI: 10.1080/14786419.2019.1643864

No.	Year	Title	Name of Journal	Quartil	Category	URL/DOI
12	2021	Two novel coumarins bearing an acetophenone derivative from the leaves of <i>Melicope Quercifolia</i>	Natural Product Research	Q2	Article	DOI:10.1080/14786419.2019.1644634
13	2021	Calotetrapterins A-C, three new pyranoxanthonones and their cytotoxicity from the stem bark of <i>Calophyllum tetrapterum</i> Miq	Natural Product Research	Q2	Article	DOI: 10.1080/14786419.2019.1634714
14	2021	Sesbagrandidflorain F, a new 2-arylbenzofuran from the stem bark of <i>sesbania grandiflora</i> L	Natural Product Research	Q2	Article	https://doi.org/10.20307/nps.2021.27.3.1
15	2021	Melixyloidin, a new acridone alkaloid from <i>melicope xanthoxyloides</i> leaves	Natural Product Research	Q2	Article	DOI: 10.20307/nps.2021.27.3.184
16	2021	Identification of the chemical constituents of the selected fraction of the dichloromethane extract of <i>syzygium samarangense</i> stem bark using LC-ESI-MS and evaluation its potential as antifungal agent	Indonesian Journal of Chemistry	Q3	Article	DOI: 10.22146/ijc.55366
17	2021	Chemical profile by lc-ms analysis from the selected fraction of methanol extract of <i>syzygium malaccense</i>	Rasayan Journal of Chemistry	Q3	Article	DOI: 10.31788/RJC.2021.1415927
18	2022	Two New Flavanones from the Leaves of <i>Flemingia lineata</i> (L.) Aiton	Natural Product Research	Q2	Article	DOI: 10.20307/nps.2022.28.2.58
19	2022	Two new pyranoxanthonones from the stem bark of <i>Calophyllum pseudomolle</i> P.F. Stevens	Natural Product Research	Q2	Article	DOI: 10.1080/14786419.2020.1808638
20	2022	Synthesis of Nanoherbal from Ethanol Extract of Indonesian Fern <i>Selaginella plana</i> and Antibacterial Activity Assay	Tropical Journal of Natural Product Research	Q2	Article	DOI: 10.26538/tjnpr/v6i1.9
21	2023	Detection of homozygous wildtype V1016V using allele-specific polymerase chain reaction in <i>Aedes albopictus</i>	Biodiversitas Journal of Biological Diversity	Q2	Article	https://doi.org/10.13057/biodiv/d240109

No.	Year	Title	Name of Journal	Quartil	Category	URL/DOI
22	2023	Two new chromanone acids from the stem bark of <i>Calophyllum peekelii</i> Lauterb	Natural Product Research	Q2	Article	DOI: 10.1080/14786419.2022.2062754
23	2024	Xanthine Oxidase Inhibitory Activity of Xanthones from <i>Calophyllum pseudomole</i> P. F. Stevens	Tropical Journal of Natural Product Research	Q2	Article	https://doi.org/10.26538/tjnpr/v8i1.31
24	2024	Three novel dihydrochalcones from <i>Flemingia lineata</i> (L.) W.T. Aiton and their antiplasmodial activity	Natural Product Research	Q2	Article	DOI: 10.1080/14786419.2024.2349246
25	2024	Macahulleitiin A, a new isoprenylated flavanone from the leaves of <i>Macaranga hullettii</i> King ex Hook and their antiplasmodial activity	Vietnam Journal of Chemistry	Q3	Article	https://doi.org/10.1002/vjch.202300417