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SENIOR LECTURER

August 2020 - Present

RESEARCH FELLOW

September 2020 - Present
Coordinator Orbitrap Fusion
Tribrid LCMS

Atta-ur-Rahman Institute for Natural
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SUBJECTS TAUGHT IN UNIVERSITY

Analytical Chemistry (CHM421)

LCMS & NMR for Natural Product
Analysis (CMT625)

NICHE

Phytochemistry (Natural Product)

Mass Spectroscopy Identification

ACADEMIC BACKGROUND

PhD, Natural Product (Analysis)- 2020

Universiti Teknologi MARA, Malaysia

Thesis title: Alkaloids, styryl lactones and acetogenins
from the roots of *Goniothalamus lanceolatus*
Miq. and their antiproliferative activity

Scholarship: Program Ahli Sains dan Penyelidikan Muda
(PSPM) UiTM

Master in Science (Research)- 2014

Universiti Teknologi MARA, Malaysia

Thesis title: Polycyclic polyprenylated acylphloroglucinols
from the bark of *Mesua ferrea* and their
anti-diabetic activity

Scholarship: Skim Fellowship Pascasiswazah UiTM

Bachelor of Science (Hons.) Applied Chemistry- 2010

Universiti Teknologi MARA, Malaysia

Scholarship: Biasiswa Persekutuan Jabatan
Perkhidmatan Awam (JPA)

Award: Vice-Chancellor's Award

Diploma in Industrial Chemistry- 2008

Universiti Teknologi MARA, Malaysia

WORKING EXPERIENCE

Research Assistance: July 2019 - Jan 2020

AuRIns, UiTM Malaysia

Grant title: Comprehensive chemical profiling and
fingerprinting of *Christia vespertilionis* (pokok
rerama)

Research Assistance: Oct 2018 - Feb 2019

AuRIns, UiTM Malaysia

Grant title: Synthesis, QSAR analysis and docking
studies of novel flavones as diabetic II
inhibitors

Research Assistance: Jun 2013 - Sept 2014

AuRIns, UiTM Malaysia

Grant title: Production of chemical marker compounds
from *Morinda citrifolia* (scopoletin and
anthraquinones) and *Centella asiatica*
(asiatic acid, madecassic acid, asiaticoside
and madecassoside)

RESEARCH GRANTS

PROJECT LEADER:

Antidepressant Potential of Purinium Alkaloids from *Heterostemma piperifolium* Using Zebrafish Metabolomics

600-RMC/FRGS 5/3 (151/2023)

October 2023 - September 2025 (RM 94 400)

Chemical Profiling and Mass Guided Isolation Strategy of Purinium Alkaloids from Limestone Species *Heterostemma piperifolium*

600-RMC/GPM LPHD 5/3 (054/2021)

September 2021 - August 2023 (RM 20 000)

CO-RESEARCHER:

- Malaysian Priority Herbs: LCMS Profile and Establishment of Validated HPLC Methods of Chemical Markers
100-TNCPI/GOV 16/6/2 (054/2023)
November 2023 - October 2025 (RM 490 000)
- Metabolites of Underutilised Fruit-Based Functional Food and Pathways Analysis in Obese Rat Model
600-UITMSEL (PI. 5/4) (035/2022)
April 2022 - March 2023 (RM 100 000)
- Anti-Obesity Activities of *Syzygium claviflorum* Fruit Extracts: *in vitro* and *in vivo* Studies
600-UITMSEL (PI. 5/4) (036/2022)
April 2022 - March 2023 (RM 100 000)
- Formulation Development of Cream and Gel From *Polygonum Minus* and its *in vitro* and *ex vivo* Comparative Assessment For Tropical Application
600-UITMSEL (PI. 5/4) (037/2022)
April 2022 - March 2023 (RM 50 000)
- Investigation of Alkaloid Containing Plants of The Unique Limestone Forest of Tuba Island Langkawi Malaysia
100-TNCPI/INT 16/6/2 (080/2022)
March 2022 - March 2023 (RM 17 312)
- Herb-Metabolism Catalytic Biotransformation Model by Cytochrome P450 3A4 Enzyme Through *in-silico* Studies, Multivariate Analysis and Molecular Dynamic Simulation
600-RMC/YTR/5/3 (008/2021)
September 2021 - August 2023 (RM 50 000)
- New Dihydrofolate Reductase Inhibitors from *Wrightia dubia*, *Wrightia pubescens* and *Heterostemma piperifolium* Using Integrated Molecular Docking and Dereplication Approach
600-RMC/GPM CoE 5/3 (052/2021)
September 2021 - August 2023 (RM 60 000)
- Anti-diabetic and Wound Healing Activities of Extreme II in Rats
100-TNCPI/PRI 16/6/2 (028/2020)
September 2020 - August 2022 (RM 30 000)

SUPERVISIONS

- PHD** Adiez Sapura Azmi (2023222572)- Co-Supervisor
Exploring Malaysian Herbs and Spices as Natural Antioxidants for Frying Oil
- Noorazlina binti Adnan (2021668536)- Co-Supervisor
Supercritical Fluid Extraction (SFE) and Conventional Maceration for The Isolation in *Anisoptera laevis* (Diterocarpaceae)
- Anis Irfan Binti Norazhar (2022374389)- Co-Supervisor
Structure-Based Molecular Networking and In Silico Molecular Docking for The Targeted Isolation of Anti-Dengue Constituents from *Brucea javanica* (L.) Merr. Leaves
- MSC** Dinie Carmila Khairul (2024550127)- Supervisor
Antidepressant Potential of Purinium Alkaloid from *Heterostemma piperifolium* Using Zebrafish Model Metabolomic Studies
- Alam Inayatsyah binti Saifuddin (2021951581)- Co-Supervisor
Synthesis of Soritin Derivatives As Potential Dengue Inhibitor
- Nursabrina Najwa binti Salmin (2021156721)- Co-Supervisor
Isolation and Structure Elucidation of Bioactive Compounds from *Piper sarmentosum*.
- Nur Afiqah Nadhiah binti Ammar Rushdan (2020204392)- Co-Supervisor
Phytochemical Study of Sabah Rare Species *Rennellia borneensis* Baill.
- Nur Syahirah binti Mad Sukor (2017646856)- Co-Supervisor
Eleusine indica and its Infusion Extract's Activity on Lipopolysaccharide (LPS)-Induced Lung Inflammation Model

PUBLICATIONS

- Abdullah, N. N., Afzan, A., Jelas, N. H., Razak, M., R. A. M., **Rasol, N. E.**, Bakar, S. I. A., Bihud, N. V., Wai, L. K., Zainol, M., Ahmad, F. B., Cordell, G. A. & Ismail, N. H. (2024). Styryllactones in the leaves of *Goniothalamus lanceolatus* Miq., Molecular Networking and Their Anti-Dengue Activity *In vitro* and *In silico*. *Phytochemistry Letters*, 60, 134-142.
- Ammar, A. S., Aziz, N. A. S. A., Ghani, N. A. & **Rasol, N. E.** (2024). Mining Secondary Metabolites of *Chassalia curviflora* Leaves Using SIRIUS and High-Resolution Mass Spectrometry Data. *Journal of Science and Mathematics Letters*, 12(1), 111-118.
- Ghani, N. A., Salleh, W. M. N. H. W., Salihu, A. S., **Rasol, N. E.** & Khamis, S. (2023). Essential Oil Composition of *Antidesma cuspidatum* and Acetylcholinesterase Inhibitory Activity. *Chemistry of Natural Compounds*, 60(1), 167-168.
- Rushdan, N. A. N. A., Ghani, N. A. & **Rasol, N. E.** (2023). Review on Anthraquinones Isolated from Rubiaceae Family. *Journal of Science and Mathematics Letters*, 11, 163-174.

- Tanazi, N. N. H., Aziz, A. N., Azmi, M. N., Bakar, M. H. A., Hassim, M. F. N., Wahab, N. H. A., **Rasol, N. E.**, Ghani, N. A., Maulidiani, M. & Awang, K. (2023). Phytoconstituents of *Endiandra kingiana*; antidiabetic effects and molecular docking studies on alpha-amylase and alpha-glucosidase. *Natural Product Research*, 1-8.
- Islam, R., Yan, M. P., Yen, K. P., **Rasol, N. E.**, Meng, C. K. & Wai, L. K. (2003). Synthesis and biological evaluation of chromone derivatives against triple-negative breast cancer cells. *Medicinal Chemistry Research*, 32(5), 884-898.
- Salleh, W. M. N. H. W., Ghani, N. A., **Rasol, N. E.** & Khamis, S. (2023). Volatile Components of *Sterculia parviflora* Essential Oil, *Chemistry of Natural Compounds*, 59(3), 574-575.
- Kadir, N. H. A., Salleh, W. M. N. H. W., Ghani, N. A., **Rasol, N. E.**, Khamis, S. & Juhari, M. A. A. (2023). Flavonoids from *Syzygium pyrifolium*. *Chemistry of Natural Compounds*, 59(5), 929-931.
- Salleh, W. M. N. H. W., Ghani, N. A., Salihu, A. S., **Rasol, N. E.** & Khamis, S. (2023). Chemical Composition and Acetylcholinesterase Inhibitory of the Essential Oil of *Boesenbergia curtisii*, *Chemistry of Natural Compounds*, 59(6), 1199-1200.
- Salleh, W. M. N. H. W., Salihu, A. S., Kadir, N. A., Ghani, N. A., **Rasol, N. E.** & Khamis, S. (2023). Chemical Composition and Cytotoxicity of *Litsea rubicunda* Essential Oil from Malaysia. *Planta Medica*, 89(14), P-178.
- Salmin, N. N., **Rasol, N. E.**, Kiong, L. S. & Ismail, N. H. (2023). Molecular Networking and Dereplication: Facilitating Natural Product Analysis of *Piper sarmentosum* Leaves, *Planta Medica*, 89(14), P-351.
- Adnan, N., Kamarozaman, A. S., **Rasol, N. E.**, Ahmat, N., Azahar, S. Z. & Johari, M. M. (2023). Isolation of Phenolic Compounds from the Stem Bark of *Anisoptera laevis* (Dipterocarpaceae). *Planta Medica*, 89(14), P-087.
- Karim, H. A. A., Ismail, N. H., **Rasol, N. E.** & Osman, C. P. (2023). Dereplication of *Wrightia dubia* and *Wrightia pubescens* by UPLC-ESI-Orbitrap-MS/MS, *Planta Medica*, 89(14), P-355.
- Rushdan, N. A., Ghani, N. A., **Rasol, N. E.**, Salleh, W. M. N. H. W., Afzan, A. & Suleiman, M. (2023). Mining Secondary Metabolites of *Rennellia borneensis* Baill. using SIRIUS and High-Resolution Mass Spectrometry Data, *Planta Medica*, 89(14), P-352.
- Shamsudin, K. J., **Rasol, N. E.**, Ghani, N. A., Suleiman, M., Salim, F. & Ismail, N. H. (2023). Phytochemicals from the Under-utilised fruit *Gnetum leptostachyum*, *Planta Medica*, 89(14), P-057.
- Salim, F., Sukor, N. S. M., Zakri, Z. M., Rasol, N. E. (2023). Phytochemical Identification from *Eleusine indica* Methanolic Extract through High-Performance Liquid Chromatography Tandem Mass Spectrometry Databases-driven Analysis, *Planta Medica*, 89(14), P-354.
- Sukor, N. S. M., Zakri, Z. H. M., **Rasol, N. E.** & Salim, F. (2023). Annotation and Identification of Phytochemicals from *Eleusine indica* Using High-Performance Liquid Chromatography Tandem Mass Spectrometry: Databases-Driven Approach. *Molecules*, 28(7), 31111.

- Salihu, A. S., Ghani, N. A., **Rasol, N. E.** & Khamis, S. (2023). Chemical Composition of the Essential Oil of *Litsea resinosa* Blume and Acetylcholinesterase Activity. *Journal of Science and Mathematics Letters*, 11(1), 64-67.
- Ahmad, M. A., **Rasol, N. E.**, Ghani, N. A., Shamsudin, K. J. & Suleiman, M. (2023). Flavonoids from the Borneo Plant Species: *Eusideroxylon zwageri* Teijsm. & Binn. *Journal of Science and Mathematics Letters*, 11(1), 39-42.
- Osman, N., Zahari, A., Hazni, H., Othman, W. N. N. W., **Rasol, N. E.**, Ismail, N. H., Champy, P., Beniddir, M. A., Litaudon, M. & Awang, K. (2023). Isolation and Characterization of Compounds from *Ochreinauclea maingayi* (Hook. f.) Ridsd. (Rubiaceae) with the Aid of LCMS/MS Molecular Networking. *Separations*, 10(2), 74.
- Bismelah, N. A., Ahmad, R., Kassim, Z. H. M., Ismail, N. H. & **Rasol, N. E.** (2023). The Antibacterial Effect of *Plectranthus scutellarioides* (L.) R. Br. Leaves Extract Against Bacteria Associated with Peri-Implantitis. *Journal of Traditional and Complementary Medicine*, 12(6), 556-566.
- Salleh, W. M. N. H. W., Shakri, N. M., Nafiah, M. A., Ghani, N. A., **Rasol, N. E.**, Rezali, N. S. & Jauri, M. H. (2022). Chemical Constituents of The Leaves of *Actinodaphne pruinosa*. *Bulletin of the Chemical Society of Ethiopia*, 36(4), 963-969.
- Ghani, N. A., **Rasol, N. E.**, Yahaya, A. A. H., Kadir, N. H. A., Abed, S. A. & Muhammad, N. A. (2022). Chemical Constituents from *Diospyros argentea* Griff.(Ebenaceae). *Journal of Science and Mathematics Letters*, 10(2), 57-61.
- Zulkifli, S. Z., Ghani, N. A., **Rasol, N. E.**, Salleh, W. M. N. H. W. & Ismail, N. H. (2022). Lepiginosides A-D: Three New Triterpenoid Saponins and A New Farnesyl Glycoside from The Stembarks of *Lepisanthes rubiginosa* (roxb.) Leenh. *Natural Product Research*, 1-6.
- Zohdi, R. M., Mukhtar, A. M., Kaharudin, F. A., Hamid, K. A., Sidek, H. M., **Rasol, N. E.**, Wahyuni, F. S. & Ismail, N. H. (2022). Acute Oral Toxicity Study of Root Methanol Extract of *Goniothalamus lanceolatus* Miq. and Its Isolated Bioactive Compound (Parvistone D) in Murine Model. *Malaysian Applied Biology*, 51(2), 77-86.
- Razali, N. Z. N. M., Ghani, N. A., & **Rasol, N. E.** (2022). Metabolites Profiling and Fingerprinting of the Ethanolic Extract of *Zingiber zerumbet* (L.) Roscoe ex Sm. *Journal of Science and Mathematics Letters*, 10(1), 97-107.
- Zulkifli, S. Z., Ghani, N. A., Ismail, N. H., Bihud, N. V. & **Rasol, N. E.** (2021). Phytochemistry and Pharmacological Activities of *Lepisanthes* Genus: A Review. *Tropical Journal of Natural Product Research*, 5(6), 994-1005.
- Kaharudin, F. A., Zohdi, R. M., Mukhtar, S. M., Sidek, H. M., Bihud, N. V., **Rasol, N. E.**, Ahmad, F. B. & Ismail, N. H. (2020). *In vitro* antiplasmodial and cytotoxicity activities of crude extracts and major compounds from *Goniothalamus lanceolatus*. *Journal of Ethnopharmacology*, 254, 112657.
- Bihud, N. V., **Rasol, N. E.**, Imran, S., Awang, K., Ahmad, F. B., Mai, C. -W., Leong, C. -O., Cordell, G. A. & Ismail, N. H. (2019). Goniolanceolatin A-H, cytotoxic bis-styryllactones from *Goniothalamus lanceolatus*. *Journal of Natural Products*, 82, 2430-2442.

- **Rasol, N. E.**, Ahmad, F. B., Mai, C. -W., Bihud, N. B., Abdullah, F., Awang, K. & Ismail, N. H. (2018). Styryl lactones from roots and barks *Goniothalamus lanceolatus*. *Natural Product Communications*, 13(12), 1575-1578.
- **Rasol, N. E.**, Ahmad, F. B., Lim, X. -Y., Chung, F. F. -L., Leong, C. -O, Mai, C. -W, Bihud, N. V., Zaki, H. M. & Ismail, N. H. (2018). Cytotoxic lactam and naphthoquinone alkaloids from roots of *Goniothalamus lanceolatus* Miq. *Phytochemistry Letters*, 24, 51-55. 199.
- Abu, N., Zamberi, N. R., Yeap, S. K., Nordin, N., Mohamad, N. E., Romli, M. F., **Rasol, N. E.**, Subramani, T., Ismail, N. H. & Alitheen, N. B. (2018). Subchronic toxicity, immunoregulation and anti-breast tumor effect of nordamnacantal, an anthraquinone extracted from the stems of *Morinda citrifolia* L. *BMC Complementary and Alternative Medicine*, 18(31), 1-10.
- Zohdi, R. M., Mukhtar, S. M., Bihud, N. V., **Rasol, N. E.**, Ahmad, F. B., Awang, K. & Ismail, N. H. (2017). In vivo antiplasmodial and toxicological effects of *Goniothalamus lanceolatus* crude extracts. *Natural Product Communications*, 12(8), 1251-1254.
- **Rasol, N. E.**, Naz, H., Awang, K., Mohamad Ridhwan, M. J., Choy, Y. K. & Ismail, N. H. (2017). Isomeric polycyclic polyprenylated acylphloroglucinols from the bark of *Mesua ferrea* (Clusiaceae). *Natural Product Communications*, 12 (8), 1283-1286.