

Fatimah Az Zahra

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PROFILE

A pharmacy graduate with ± 1 year of hands-on experience in topical formulation R&D, botanical actives, and advanced delivery platforms. Experienced in formulation development through controlled experimental design, stability assessment, multi-assay efficacy screening, and release profiling. Applies structured root-cause analysis and data-driven corrective actions to troubleshoot formulation issues. Stays ahead through self-directed learning, translating cutting-edge delivery strategies into practical lab protocols.

WORK EXPERIENCE

Research Assistant (Natural Product Chemistry Research Group) – Contract | BRIN RI Nov 2024 – Nov 2025

- Developed anti-acne niosomal delivery system via thin-film hydration (95.27% entrapment efficiency) and botanical anti-aging gel serum from concept through stability testing.
- Executed 25+ botanical extracts and formulation prototypes bioassay programs (DPPH, ABTS, FRAP, TPC, TFC, α -glucosidase inhibition), establishing 75+ dose-response datasets to substantiate product efficacy claims.
- Ran HPTLC with mobile-phase optimization and densitometric calibration curves to quantify active-marker content across 10+ topical and oral prototypes, supporting standardization and dosing consistency.
- Supported cross-functional collaboration between organic chemistry-nanotechnology scientists, streamlining experimental workflows across 3 concurrent projects.

Undergraduate Researcher (Bachelor's Thesis) – Contract | BRIN RI Nov 2024 – Apr 2025
(Concurrent with Research Assistant contract)

- Led end-to-end anti-aging emulgel development from botanical sourcing to validation, achieving 47% faster initial release and stable system through optimization.
- Outlined release mechanisms through 5-model kinetic analysis via *in vitro* release testing (IVRT) to enable rational formulation design for targeted topical delivery profiles.
- Developed troubleshooting methodology isolating gel-network effects through composition-matched systems and mathematical kinetics modeling to predict formulation variable impacts on release behavior.

EDUCATION

UIN Syarif Hidayatullah, Jakarta – *Bachelor of Pharmacy* | **GPA: 3.68/4.00** 2021 – 2025

- Final Project:** Modulation of Total Phenolic Release from a 96% Ethanolic *Myristica fragrans* Houtt. Leaf-Extract Emulgel by Carbopol® 940: An *In Vitro* Release Study.
- Recognition:** International Student Delegate – ASIIN Accreditation, 1st Place of English Speech Contest – Daar En Nisa Indonesian Cultural Week, Pioneered and led the 1st Spotify-hosted podcast within the UIN Health Faculty.
- Relevant Coursework:** Cosmetology, Drug Delivery Systems, Drug Stability, Physical Pharmacy, Dosage Form Formulation Technology.

KEY SKILLS & COMPETENCES

Technical: Cosmetic formulation science, Ingredient functionality, Stability protocols, Rheology profiling, Claim substantiation, Root-cause failure analysis, Formulation troubleshooting, Botanical active development and characterization.

Laboratory Equipment: Overhead stirrer/homogenizer, Ultra Turrax, HPTLC, UV-Vis spectrophotometry, Brookfield viscometer, Rotavisc viscometer, Microplate reader, Franz Diffusion Cells, Vacuum Rotary evaporator, Centrifuge, pH meter.

Software & Data Analysis: GraphPad Prism, Microsoft Office, Google Workspace, SPSS, Adobe Creative Suite (Premiere, Lightroom).

Languages: Indonesian (Native), English (Professional working proficiency).

CERTIFICATIONS / LICENSES

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| • The Secrets Behind the Ingredients List (LOI), TemanGroup | Dec 2025 |
| • SNI ISO/IEC 17025 in Testing and Calibration Laboratories, BINUS University | Dec 2025 |
| • K-Beauty Code: R&D Sessions, Indonesian Cosmetic Connect Alliance (ICCA) | Dec 2025 |
| • Market Research and Trend Analysis for the Beauty Industry, TemanGroup | Dec 2025 |
| • GMP Implementation and Cosmetic Production Scale-Up (CPKB-Compliant), TemanGroup | Nov 2025 |
| • Reshaping Beauty with Science, The Society of Indonesian Cosmetic Scientists (SICS) | Oct 2025 |
| • Understanding In-Vitro and In-Vivo Studies for Cosmetic Product Safety, SIG Laboratory | Oct 2025 |
| • Safety Assessment in the Cosmetic Industry, TemanGroup | Aug 2025 |
| • COSMAX Beauty Science Symposium, COSMAX Indonesia | Nov 2024 |
| • ASEAN Data Science Explorers: Enablement Session, ASEAN Foundation | May 2024 |
| • ASEAN Academy: Critical Thinking & Digital Literacy, ASEAN Youth Organization | Feb 2024 |

RESEARCH OUTPUT

Patents

Indonesian Patent No. P00202514163, filed December 10, 2025

Publications (*Under Review*)

- Journal of Pharmaceutical Innovation (Q2)
- Acta Pharmaceutica Scientia (Q3)

ORGANIZATIONS

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| • Society of Indonesian Cosmetic Scientists (SICS), Member | Jan 2026 – Present |
| • Indonesian Cosmetic Connect Alliance (ICCA), Member | Dec 2025 – Present |
| • Solventers Community, Member | Jan 2026 – Present |
| • DEMA FIKES UIN Jakarta, Staff of Communications and Informatics | May 2022 – Sep 2023 |