



Nabila Khairunnisa

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Chemistry graduate (B.Sc. & Diploma III) with professional experience in Technology Development at Kalbe Farma. Possesses solid technical expertise in instrumental analysis (HPLC, UV-Vis, AAS) and research method validation. Proven track record in leadership and creative problem-solving through active involvement in research projects and organizations. Equipped with strong analytical thinking to translate research data into product solutions that align with consumer needs and business objectives.

EDUCATION

Universitas Jenderal Achmad Yani (UNJANI)

Bachelor of Science in Chemistry (B.Sc.) | *GPA: 3.45 / 4.00*

Cimahi, West Java

Sep 2024 – Sep 2025

- Thesis: "Effectiveness of Na₂SO₄ Electrolyte in Electrocoagulation of Tofu Liquid Waste for TSS Reduction and Energy Efficiency."
- Research Focus: Conducted a technical feasibility study on waste treatment, successfully reducing Total Suspended Solids (TSS) by 96.17% with the lowest cost formulation (IDR 0.44/process), demonstrating the ability to balance technical performance with cost-efficiency.
- Relevant Coursework: Instrumental Chemistry Laboratory, Inorganic Compound Characterization, Chemical Statistical Methods.

Politeknik Negeri Bandung (POLBAN)

Diploma III in Chemical Analysis | *GPA: 3.34 / 4.00*

Bandung, West Java

Aug 2021 – Jul 2024

- Final Project: "Characterization and Synthesis of Ca-Doped Ceria (CDC) Electrolyte Using Co-precipitation Method for Solid Oxide Fuel Cell Application."
- Research Focus: Developed an alternative material stable at intermediate temperatures (500-700°C), offering a more efficient future-energy solution compared to conventional materials (YSZ).
- Relevant Coursework: Instrumental Analytical Chemistry, Environmental Chemistry, Separation Methods, Inorganic Chemistry, Statistical Data Processing.

WORK EXPERIENCE

PT Kalbe Farma Tbk

Technology Development Analyst

Bekasi, West Java

Oct 2024 – Present

- Analyzed 40-60 product development batches monthly to ensure technical feasibility and 100% compliance with USP/BPOM standards prior to product launch.
- Operated HPLC and UV-Vis Spectrophotometer to test >50 samples/month, processing high-precision analytical data using Empower and LabSolutions software.
- Implemented strict ALCOA principles and GDocP across 20 analytical reports/month, achieving zero data-integrity findings in compliance with GMP & GLP regulations.

PT Sucofindo

Chemical Analyst Intern

Bandung, West Java

Mar 2024 – May 2024

- Executed a validation project for Iron (Fe) and Zinc (Zn) analysis methods using AAS, ensuring data accuracy and adherence to acceptance criteria.
- Analyzed over 10 environmental sample parameters (water & waste) according to ISO/IEC 17025:2017 standards using UV-Vis Spectrophotometer and Titration methods.
- Conducted direct sampling at textile and food industries to ensure sample quality and representativeness.

BBSPJI SELULOSA (Ministry of Industry)

Consultation & Assistance Team Intern

Bandung, West Java

Jul 2023 – Aug 2023

- Provided technical assistance to the Beverage Carton Waste (KBM) processing industry to minimize environmental impact (sustainability).
- Conducted research on KBM pulp utilization by analyzing sugar content using the DNS (Dinitrosalicylic Acid) method to validate material quality.
- Designed systematic laboratory analysis plans to ensure precise method selection and valid testing results.

ACADEMIC RESEARCH PROJECTS

Research Assistant (Lecturer Project) | Politeknik Negeri Bandung

Topic: Phytochemical Analysis & Antioxidant Activity of Butterfly Pea (*Clitoria ternatea*)

- Product Innovation: Developed a low-glycemic natural sweetener prototype based on Butterfly Pea extract, specifically formulated as a safe alternative for diabetic patients.
- Conducted extraction and antioxidant activity testing using the DPPH method (Visible Spectrophotometry) to validate the product's functional health benefits.

Integrated Analytical Chemistry Project | Politeknik Negeri Bandung

Topic: Verification & Validation of Anthocyanin Analysis Method

- Validated the pH Differential Method for antioxidant (Anthocyanin) analysis.
- Tested validation parameters including precision, accuracy, linearity, and detection limits (LOD/LOQ) to ensure the analytical method was reliable and scientifically valid.

Natural Chemistry Material Project | Politeknik Negeri Bandung

Topic: Advanced Material Synthesis & Natural Pigments

- Synthesized Hematite ($\alpha\text{-Fe}_2\text{O}_3$) and Magnetite (Fe_3O_4) red pigments from Iron Sand using the Co-precipitation method.
- High Efficiency: Achieved high synthesis efficiency with product yields of 74.26% (Magnetite) and 60.56% (Hematite), proving the effectiveness of the developed method.

ORGANIZATIONAL EXPERIENCE

Cianjur-Polban Student Association Creative Media Division

Bandung, West Java

Dec 2023 – Dec 2024

- Designed and produced visual communication materials to support organizational campaigns and programs.
- Managed social media platforms to ensure all event information was delivered accurately, informatively, and on target.

Chemical Engineering Student Association Expert Staff of Research and Technology Department

Bandung, West Java

Dec 2022 – Dec 2023

- Mentored and directed 19 junior staff members to ensure effective program execution and team competency development.
- Successfully realized 9 science and technology-based strategic programs, including National/Regional scientific competitions, book publications, and educational webinars.

Junior Staff of Research and Technology Department

Dec 2021 – Dec 2022

- Event Management: Led the "Scientific Seminar" as Project Manager, achieving 100% of success indicators through measurable time and resource management.
- Competition Coordinator: Headed the essay competition subdivision for "Chemical Engineering Fair 2022," fully responsible for technical theme formulation, guidebook development, and national-level judging coordination.

SKILLS & ACHIEVEMENTS

Technical Skills (Hard Skills)

- Instrument & Method: UV-Vis Spectrophotometer, AAS, HPLC, Titration, Chemical Synthesis (Co-precipitation), Natural Product Extraction, Method Validation.
- Software & Tools: Microsoft Office, Empower, LabSolutions, Zootero, SPSS.
- Languages: Indonesian (Native), English (TOEIC: 540 - Working Proficiency).
- Certificate of Competence in Test Method Validation for UV-Vis Spectrophotometry and AAS Politeknik Negeri Bandung (Declared Competent) | 2024
- Training and Certification: Managing Operational Quality Assurance (QA) & Quality Control (QC), Good Traditional Medicine Manufacturing Practice (CPOTB), Pharmacovigilance Awareness, Instrumentasi *High-Performance Liquid Chromatography* (HPLC), Hazardous Material (B3) Spill Management & Handling, Quality Control Circle (QCC) for Member, and Halal Assurance System Training.

Achievements and Leaderships

- Best Participant (Science Hunter Indonesia): Awarded for the essay "POME Methane Gas (PMG): Utilization of Palm Oil Waste as Alternative Energy" offering an innovative solution based on sustainability.
- Academic Tutor: Trusted tutor for Inorganic Chemistry in the "Learning Together" program, honing technical communication and teaching skills.
- Mentor (PKKMB Polban 2022): Guided new students in adapting to campus culture, demonstrating strong leadership and interpersonal skills.