

ALPAN SOFYAN TANJUNG

Analytical Development (Andev) Analyst | Quality Control (QC) Analyst | Laboratory Testing

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PROFESSIONAL SUMMARY

Chemistry graduate with hands-on experience in chemical testing, analytical research, and laboratory operations. Experienced in analytical testing using UV-Vis, FTIR, and AAS, with a strong understanding of analytical method development, verification, validation parameters (linearity, accuracy, precision, LOD, and LOQ), and systematic data evaluation. Familiar with HPLC principles and laboratory practices under GLP, GMP, and ISO/IEC 17025, supported by experience in research formulation trials, analytical optimization, and technical documentation. Detail-oriented and analytical professional with strong problem-solving, adaptability, and teamwork skills, eager to contribute to analytical development and product testing activities.

PROFESSIONAL & INTERNSHIP EXPERIENCE

Quality Control Laboratory Intern

Jul – Aug 2023

Balai Besar POM - Padang, West Sumatera

- Assisted in the preparation and testing of 25+ food, beverage, and consumer product samples per week, covering analyses of food colorants, aflatoxins, benzoate, cyclamate, formaldehyde, deoxynivalenol (DON), moisture content, and heavy metals in accordance with SOPs, GLP, GMP, and laboratory safety procedures.
- Prepared and standardized secondary reagents, volumetric titrants, buffer solutions, and chemical indicators with precise stoichiometric calculations, ensuring reliable and valid analytical baselines for routine testing.
- Conducted daily verification and routine calibration checks on laboratory instruments, including analytical balances and digital pH meters with standard buffer solutions, preventing equipment measurement drift and ensuring data reliability.

Laboratory Teaching Assistant

Aug 2024 – Jul 2026

UPT. Central and Chemistry Departement Laboratory - Andalas University

- Performed and supervised 50 - 100 students for routine physicochemical and instrumental testing, including titration and UV-Vis spectrophotometric analysis, while ensuring adherence to established analytical procedures and laboratory SOPs.
- Managed and formulated of 15+ analytical reagent types, sample labeling, solution preparation, experimental records, and measurement data with emphasis on accuracy and traceability.
- Diagnosed experimental errors and instrument anomalies swiftly during analytical runs, delivering immediate corrective guidance to safeguard data validity.

RESEARCH PROJECTS

Material Development for Heavy Metal Removal - Team Leader (Publish)

- Led research team to execute multi-condition quality testing, achieving up to 96% target removal efficiency with high reproducibility and publishing the results in a journal.
- Designed and executed lab-scale formulation trials to modify natural biopolymer matrices via chemical cross-linking, contributing to sustainable product innovation (pengembangan produk inovatif).
- Applied advanced lab instruments (FTIR and AAS) to evaluate functional group changes and elemental compositions, generating valid quantitative data for peer-reviewed journal publication.

Textile Wastewater Degradation & Parameter Optimization - Research Member (Publish)

- Conducted structural phase and material characterization using FTIR, SEM-EDX, and XRD, maintaining systematic and traceable data logs across all testing batches
- Quantified dye concentration in real textile wastewater using UV-Vis spectropotometry/HPLC and evaluated material photocatalytic degradation efficiency.
- Maintained rigorous data documentation and cross-verification across testing conditions, achieving 98% degradation efficiency in synthetic samples and 32% in real textile wastewater with consistent, traceable results.

Material Development for Urea Detection - Team Leader (Review)

- Applied analytical performance evaluation through calibration linearity and limit-of-detection (LOD) assessment, supported by systematic data processing and experimental comparison.
- Operated laboratory measurement tools and Spectrophotometers (UV-Vis) to validate analytical detection limits, establishing a validated Limit of Detection (LOD) of 8.68 mM with high calibration linearity (R^2).

SKILLS AND COMPETENCIES

Instrumentation: Proficient in operating laboratory equipment and analytical instruments, including UV-Vis Spectrophotometers, FTIR, and AAS.

Testing Techniques: Accurate reagent calculation and formulation; sample preparation; hazardous (B3) waste and chemical handling; experimental design; data analysis and interpretation; research methodology; chemical analysis; and fundamental operating principles of HPLC and GC-MS.

Quality Systems & Laboratory Standards: Good Laboratory Practice (GLP), GMP, HACCP, and ISO/IEC 17025 principles; comprehensive understanding of analytical method verification/validation (LOD, LOQ, accuracy, precision, linearity); and testing data integrity and traceability.

Software & Reporting: Microsoft Office, scientific data processing and analysis, technical report preparation, and scientific manuscript writing.

Personal Competencies: Meticulous and detail-oriented, problem-solving, analytical and critical thinking, high integrity, effective communication, team coordination, mentoring, time management, and highly adaptable to dynamic work environments.

Languages: Indonesian (Native); English (Intermediate, TOEFL prediction: 523).

EDUCATION

Andalas University- Padang, West Sumatera

Bachelor of Chemistry - GPA 3.75/4.00

Relevant Coursework: Keselamatan Kerja Laboratorium, Kimia Industri, Dasar-Dasar Kimia Analitik, Cara-Cara Analitik Khusus, Analisis Spektrometri, and Kimia Analisis Bahan Industri.

ORGANIZATIONAL EXPERIENCE

Coordinator, Religious & Spiritual Affairs Division

Feb 2023 - Jan 2024

Chemistry Student Association (Himpunan Mahasiswa Kimia), Andalas University

- Directed program planning and task delegation across the division for 12 consecutive months, achieving 100% on-time delivery of all scheduled programs.
- Organized and led 12 monthly mentoring and discussion sessions throughout the year to support members' academic and personal development.

Secretary, FSI Multimedia Center Division

Feb 2022 - Jan 2023

Islamic Studies Forum (Forum Studi Islam), Andalas University

- Maintained organizational documentation and correspondence records consistently across a full 12-month term, supporting uninterrupted program execution.
- Coordinated scheduling for the divisions' regular meetings throughout the year, ensuring timely communication across all team members.

AWARDS & HONORS

Recipient awards in national Scientific Paper Writing Competitions (LKTI) and Essay Competitions reflecting strong research aptitude, critical thinking, and academic writing skills.

- Team Leader Recipient of PKM-RE Research Grant 2024, Ministry of Education and Culture, Indonesia.
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- 1st Place 7th National Scientific Paper Competition, State University of Medan.
- 1st Place National Scientific Paper Competition, University of Bengkulu.
- 2nd Place Global Impact Day National Essay Competition, President University.
- 2nd Place National Student Essay Competition, Andalas University.
- 2nd Place Agritech Research and Entrepreneurship Innovation Competition, Brawijaya University.
- 2nd Place Electrical Innovation Contest, Sriwijaya University.
- Top 5 Finalist - BRM FMIPA National Scientific Paper Competition, Tadulako University
- Finalist - TRICITY 3.0 Scientific Writing Competition, Tadulako University