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Presented:

International Conference

Interdisciplinary Innovation in Drug Development: Challenges and Opportunities for Indonesia 2025

**Wisma Kalla Makassar on
June 24th-25th 2025
(Hybrid)**



SKP IAI



金沢大学
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SURAT KETERANGAN REGISTRASI PENINGKATAN KOMPETENSI
Nomor : 22699/F.V/REG-KT.03.02/2025

Berdasarkan keputusan Plt. Direktur Mutu Sumber Daya Manusia Kesehatan, menyatakan:

"TEREGISTRASI"

Nama	: International Conference Interdisciplinary Innovation in Drug Development: Challenges and Opportunities for Indonesia
Jenis Kegiatan	: Konferensi
Waktu Pelaksanaan	: 24 Juni 2025 s/d 25 Juni 2025
Angkatan	: 1
Jumlah Peserta	: 450
Penyelenggara	: BADAN PENDIDIKAN DAN PELATIHAN (BADIKLAT) IKATAN APOTEKER INDONESIA
Cakupan	: Internasional

Dapat diselenggarakan sesuai dengan ketentuan yang berlaku, dan surat keterangan registrasi ini berlaku untuk 1 kali pelaksanaan.

Validasi di sini:



Ditetapkan di : Jakarta
Pada tanggal : 27 Mei 2025
Plt. Direktur Mutu Sumber Daya Manusia Kesehatan



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SKP PESERTA

No.	Profesi	Status	SKP
1	Apoteker	Disetujui dengan Nilai SKP	14

DAFTAR MATERI

No.	Nama Materi	JEP	SKP Narsum	SKP Moderator
1	Radiotheranostic development for oncology	60	4	2
2	Drug discovery by synthesis molecule compounds based on natural resources	60	4	2
3	Development of radioimaging agent small molecule compound based TKIs as lung cancer imaging agent	60	4	2
4	From lab to market: Industry perspective on Indonesian drug development	60	4	2
5	Development of radiotheranostic agent for oncology imaging and therapy	60	4	2
6	Drug development from medicinal plant, vitex sp., based on DNA barcoding genes	120	8	4

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OP004

Retrosynthetic Planning as a Fundamental Framework in Organic Synthesis

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ABSTRACT

Retrosynthetic analysis plays a fundamental and pivotal role in the field of contemporary organic chemistry. It serves as a strategic approach that guides chemists in the design and construction of complex organic molecules. At its core, retrosynthesis involves mentally working backward from the target molecule—often a complex and biologically important compound—to identify simpler chemical entities that can be used as building blocks. This is done through a logical process known as "disconnection," where specific bonds within the target structure are systematically broken to reveal potential precursor molecules. These intermediates are then further simplified in successive stages until the route reaches substances that are commercially available or easily synthesized from basic reagents. One of the key strengths of retrosynthetic thinking is its focus on identifying crucial transformations, such as the conversion of one functional group into another or the formation of carbon-carbon bonds, that are essential to assembling the target compound. Through this analytical breakdown, chemists are able to devise efficient synthetic routes that minimize the number of steps (step economy), reduce waste (atom economy), and enhance control over stereochemistry—an important consideration in the synthesis of chiral compounds. This ultimately leads to more sustainable and practical chemical processes. In the context of drug development, natural product synthesis, and other applications requiring the preparation of structurally intricate molecules, retrosynthetic analysis is especially valuable. It allows chemists to tackle the challenge of assembling multi-functional, stereochemical-rich molecules with a high degree of precision. The insights gained through retrosynthetic planning not only make the synthesis of such targets achievable but also improve the reproducibility and scalability of the process—two essential factors for transitioning laboratory results into industrial-scale production. In summary, retrosynthesis is not merely a theoretical exercise; it is a powerful and indispensable tool in organic synthesis. It empowers chemists to approach the construction of complex molecules with both creativity and scientific rigor, ensuring that the resulting synthetic strategies are practical, efficient, and adaptable to a wide range of applications in both research and industry.

Keywords: Biologically, organic chemistry, synthesis, molecule, precision

Pengembangan Keprofesian Berkelanjutan

Nomor: KT.03.02/F/1059795/SER/2025

Diberikan kepada

Muammar Fawwaz

Telah mengikuti

**International Conference Interdisciplinary Innovation in Drug
Development: Challenges and Opportunities for Indonesia Angkatan 1**

diselenggarakan oleh BADAN PENDIDIKAN DAN PELATIHAN (BADIKLAT) IKATAN APOTEKER INDONESIA

Pada 24-06-2025 s/d 25-06-2025

Sebagai Fasilitator

Jumlah 7 Jam Pelajaran senilai 4 SKP



a.n Menteri Kesehatan
Direktur Jenderal SDM Kesehatan



dr. YULI FARIANTI, M.Epid



CERTIFICATE

OF PARTICIPATION

This certificate is proudly presented to

Assoc. Prof. Muammar Fawwaz, Ph.D.

In recognition of his contribution as an **Invited Speaker** at the International Conference
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Chairman of Molecular Probes Discovery Group
(MoleGro)



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