Symphony X

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Tool Type: Automated Peptide Synthesizer
Manufacturer: Gyros Protein Technologies
Location: Elings Hall 2411

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About

The Symphony X (Gyros Protein Technologies) is a flexible, automated synthesizer that enables the preparation of novel peptides, peptoids, and other solid-phase synthesis sequence specific materials. It provides a viable route to non-commercial products, branched or cyclic materials, and a low-cost solution for non-natural amino acid-based peptides. The system also includes the ability to perform in-situ pre-activation, special reagent additions with no waste of precious starting materials, as well as automated and fully customizable cleavage.

Multi-user accessibility is facilitated via 12 fully independent reaction stations, enabling different sequences, scales, and protocols to be run simultaneously. When larger scale is needed, each reaction station can be configured to run two reactions of the same sequence concurrently, effectively doubling the system's capacity to 24 reactions at a time. Typical scales span 10 mg to 1 g of resin in 10- or 40-mL reaction vessels (RVs) with IR heating up to 90ºC for one RV to accelerate difficult deprotections and couplings. Agitation of each RV is performed by nitrogen bubbling. The Symphony X at BioPACIFIC has also been pre-configured with a number of optimized methods for rapid peptoid synthesis.

Safety Concerns

• Many peptide coupling agents (e.g., DIC, EDC, HBTU, HCTU and HATU) are known skin and respiratory sensitizers. Allergy symptoms, including dermatitis, hives, rhinitis (e.g., nasal congestion, runny nose, sneezing, and itching), asthma, and potentially deadly anaphylaxis, can develop as a result of handling coupling agents.

• DMF and NMP, commonly used solvents, are toxic and can be readily absorbed through the skin, affecting the liver. Always wear proper PPE, including gloves, a lab coat, and, when pouring large volumes, a face shield and booties.

• To minimize exposure, perform all operations in a fume hood or ventilated cabinet, including opening reagent bottles, weighing, and transferring reagents. Dispose of contaminated materials in the labeled waste containers, and rinse glassware and tools in the fume hood into designated waste containers.

Reference Documentation

Quick Start Guide

User Manual

Aapptec Peptide Synthesis Guide

Protocols for the Synthesis of Peptoids

Aapptec Cleavage Cocktails

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