

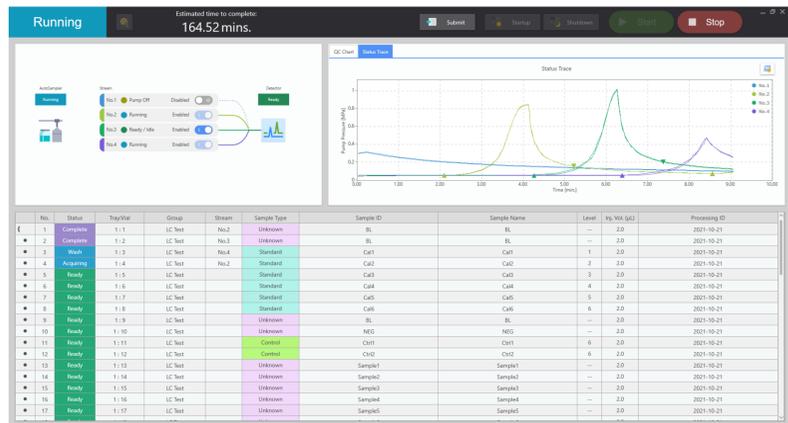
QX Next Generation LCMS Multiplexing Software for R&D and Production Laboratories

Andy Sasaki¹; Kerry Hill¹; Timothy Lee¹; Tomohiro Shagawa¹; Keisuke Ogawa¹; Arthur J. Harmon-Glaus¹; Frances Maldonado¹; Logan Miller¹; Yuka Fujito¹
¹Shimadzu Scientific Instruments, Inc., Columbia, MD

Introduction

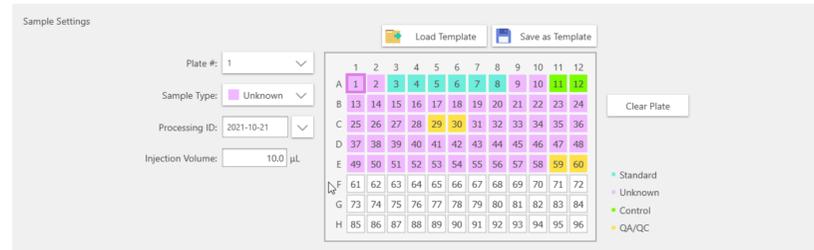
QX Solution software is specifically designed for the high-throughput laboratory. The user experience with QX Solution allows for greater productivity and ease of use. A single point of control for LCMS analysis is provided for instrument operation, sample submission, and Analytical Intelligence (AI) features.

QX Software Designed for Multiplexing

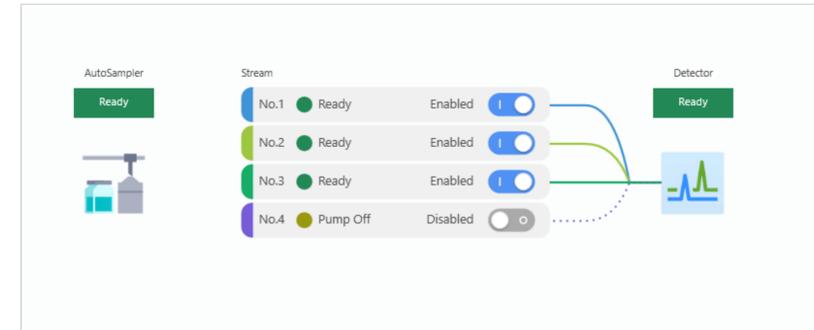


Easy sample submission

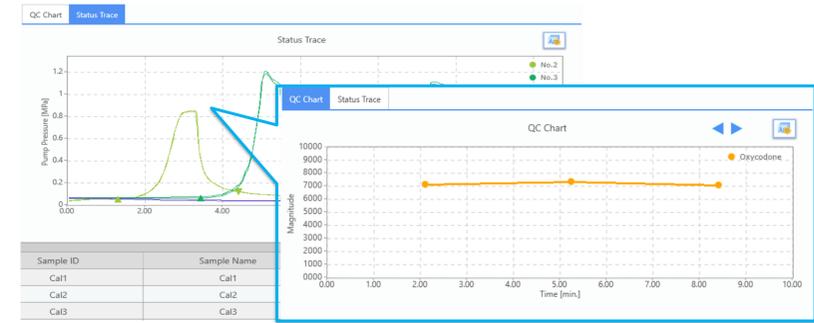
Single sample submission or easily import from a CSV / TXT / XLSX file for a batch of samples.



Stream Dedicated status monitoring

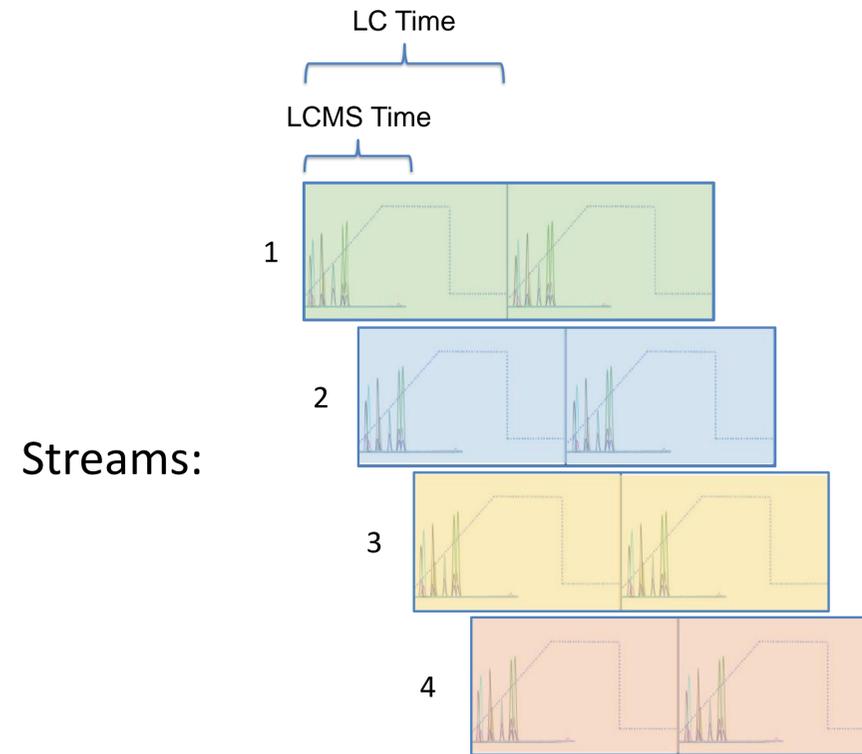


Pressure trace and QC charting

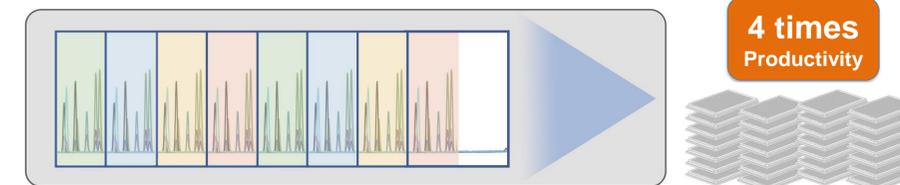


Maximize Throughput

The QX System significantly increases throughput and profitability for a laboratory by utilizing multiple injection ports and flow streams. The system optimizes the time that conventional systems would use for performing routines such as flushing, equilibration, and autosampler rinsing.



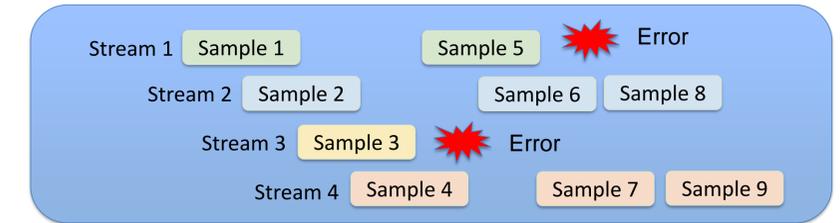
Streams:



Minimize Downtime



Analytical Intelligence (AI) is utilized to minimize the downtime of an instrument and maximize throughput. QX Solution will manage each flow stream and monitor for errors such as a leak or high pressure. When an error occurs QX Solution automatically continues the batch of runs on remaining available streams.



Automatic rinsing is an AI feature that is available with the QX Solution software to mitigate carry over before it occurs.

1. High concentration automatic detection - The system automatically detects samples that are above the threshold set by the user and can trigger countermeasures to prevent carry-over on subsequent injections.
2. Automatic rinsing - Specific rinsing sequence (customizable) can be automatically triggered by the "High-Concentration Automatic Detection" function.
3. Automatic carry-over evaluation - Blank injection is performed and the residual carry-over level is automatically calculated. If it is below the specified threshold, the batch sequence is automatically resumed using all flowlines. Otherwise only remaining flowlines will be used.

