The Q Master

Diagnostic Scale Synthesizer

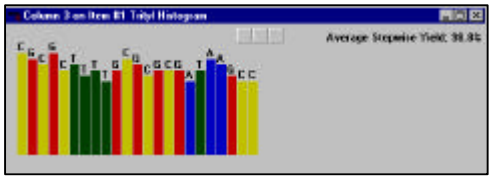
The Q Master Diagnostic Scale synthesizer is capable of synthesizing biopolymers at a variety of scales. Resin loading and precision of flow rates determine scale.

The Q Master can perform synthesis with resin quantities from 10mg to 5 grams and can operate at extremely precise flow rates for low scales requiring as low 50ul of material and as high as 6ml/min for higher scales.

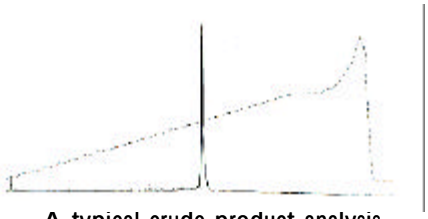
The Genomic Technologies, Validate™ Control Software operates in Windows NT WIN95/98 WIN2000 and enables the user to create synthesis files in a variety of formats. Column positions are loaded with the specific sequence file by clicking on the column image or by dragging and dropping a sequence file icon onto the column image. Column images are displayed on the main screen, as they appear on the instrument itself in order to minimize loading errors. The synthesis progression is monitored in real time providing graphical display of all synthesis parameters and sensors. At the completion of each synthesis the system stores all synthesis run data into a Microsoft Access compatible database.

Q Master Main Control Screen

The Q Master can be equipped with an optional trityl monitor. This monitor allows for the acquisition and analysis of column effluent during synthesis. The system is capable of determining the synthesis performance by several user selectable methods and halting the synthesis progression if the performance drops below a user configurable threshold.



Deblock Effluent Histogram Display



A typical crude product analysis

SPECIFICATIONS

Number of columns:	3
Monomer Vessels	9 in standard configuration
Synthesis Scale	200nm, 1um, 5um, 10um, 20um,30um, 60um, 90um [*Custom Scales depending on Support loading and column geometry.*]
Dimensions:	24"W X 24"D X 28"H
Power:	120VAC
Pneumatics:	Inert gas system required (10psi min).
Flow Rate:	50ul pulsed delivery up to 6ml/min
Cycle Time:	5 minutes (10umole CED DNA)
Synthesis Time:	Three column out of phase synthesis can provide synthesis times for three 20mers of ~2.5hours.
Throughput:	
Compatibility:	All wetted parts are made of Teflon, PEEK or PPS.
Software:	Microsoft Windows® (NT, Win95/98, Win2000) compatible.

Column effluent is continually monitored during the synthesis (*not only during deblock)*. This provides a history chromatogram of the synthesis detailing the delivery and washout of all colored reagents. The history trace is essential for a GMP record of the synthesis.

Q Master *provides these additional features:*

Integrates synthesis run statistics with *SDM* and *Q Browser*
Compatible with several industry standard sequence file formats
Microsoft Access database format
Audible run events notification

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Providing Cost Effective Solutions for the High Throughput Service Laboratory