◑ UNICORN 5.0 vs 4.12

Amersham
Biosciences

Introduction

This document describes the implemented changes and improvements in UNICORN^{TM} 5.0 compared to version 4.12.

Installation options

- UNICORN now supports Windows® 2000 and XP. Windows NT® 4 is no longer supported.

- The installation program has been enhanced with an new integrity check to verify the installation.

- The installation program features a selection of either standard UNICORN or UNICORN for ÄKTAxpress™. ÄKTAxpress may be installed with a standard System Control layout or the new System Control for ÄKTAxpress.

User information

- A license information dialog box is shown when the software is started.

User interface

- The UNICORN Manager replaces the old Main Menu module.

- A restricted UNICORN Manager is available for users with restricted access to the software functions.

- Only the modules that the user has access to are displayed.

- A new File Navigator for easy location of result files and chromatograms is available in the Evaluation module.

- Improved routines for handling login and signature passwords.

- A new Options dialog box features convenient software and user settings.

- The Options dialog box contains a selection to include or not include curve data before the injection point in the chromatograms, i.e. negative retention.

- The file types and folders that are displayed in the UNICORN file list are increased and now also include the UNICORN root folder.

- The ten latest search criteria are saved in the Find Files dialog box.

System administration/user settings

- Automated Logoff after inactive periods can be set by the system administrator. If MethodQueues or Scouting series are in progress automated logoff will not be performed.

- Socket settings are available in the system setup.

- UNICORN can be setup to run in Single Application Mode on a specific desktop with no access to other functions.

- Individual user access rights can be defined for creation and renaming of curves.

- The Backup and Restore functions now also include backup of personal files and system setup.

- The right to restore global files is restricted to users with access rights to edit global lists.

Audit trails

- A checksum test protects the Audit trails from tampering.

- The following items are now also logged:

  Changes in global columns

  Changes in personal columns

  Changes in global recipes

  Changes in personal recipes

  Changes in report formats

  Changes in evaluation protocols

  Backup

  Restoration

Operational features

Variables

- Variable values can be used as result names, e.g. SampleID can be used as a scouting variable and each result file can use SampleID as result name.

- The Find command in the UNICORN Manager can be used to search for specified method variables.

Messages

- The Flow warning can be disabled using the new instruction Flow_Warning, e.g. when creating advanced methods and templates.

Manual instructions

- An option to select parameter fields to be updated continuously while manual instructions are edited is added to the dialog box.

Scouting

- Scouting series can now be defined using float values for variables.

File handling

- File security has been improved.

- Performance in networks has been improved.

- Results and methods can no longer be edited in other programs. An integrity check has been added in accordance with CFR 21 part 11.

Column list

- Advanced parameters have been added to the column list. More system and column specific default variables and values are available. These parameters are used by the Method Wizard only.

- New columns have been added, including HisTrap™ HP, GSTrap™ HP and three new 2X columns mainly for use with the new ÄKTAxpress systems.

- Column files can be exported in Microsoft® Excel format.

- Column files can be imported and exported in Column file format.

- The column list can be filtered to show either global or personal columns.

Evaluation

- Original curves are underlined to distinguish the original data from edited curves.

- An option to hide global data in the peak table data has been added.

- Conductivity at peak start, peak max and peak end has been added to the peak tables.

- The pool fractions function has been improved:

  The fractions are pooled graphically and the data are presented in a pool table.

  Automatic calculation of concentration and amount based on an extinction coefficient is included in the pool table.

  Automatic calculation of target volume based on extinction coefficient and target concentration is included in the pool table.

  A pooling protocol can be created and printed for reference when the fractions are pooled.

  The procedure to create pool fractions curves has been improved.

  The pool table can be included in reports.

- A new File Navigator has been added to the Evaluation module:

  Recent runs are listed in a Recent Runs tab.

  Only files available to the user are listed in the Files tab.

  A convenient search function for result files is included as a separate Find tab.

  The ten latest search definitions are saved and available in the Find tab.

- The wildcard character "✳" can be used to create default file names for exported result files from evaluation procedures. A number of file formats including XLS are supported.

OLIGO

- Settings for Sequence message, Sequence check and Sequence copy and paste are now available in the new Options dialog box in the UNICORN Manager.

- An optional automated DEA (Diethylamin) treatment step can be selected to improve the yield of oligonucleotide product.

ÄKTAxpress

ÄKTAxpress offers effective and reliable multi-step protein purification on up to 12 parallel systems. A number of new functions have been implemented in UNICORN 5.0 to provide a user-friendly interface for ÄKTAxpress.

- A new re-designed Method Wizard with a vast selection of options. The Method Wizard is used both to create method plans and to execute runs in the new System Control module.

- The Method Wizard creates method plans that may include a number of different multi-step protocols.

- The method plans are saved and can be edited later.

- The Method Wizard is used to execute runs on up to 12 systems simultaneously.

- Several different method plans can be used at the same time for any number of systems up to the maximum of 12.

- Sample ID data can be imported in the Wizard, e.g. for extinction coefficient, molecular weight and sample volume.

- A Summary page with a convenient overview of buffer volumes, valve and column positions is the final step of the Wizard.

- The page can be printed for reference when preparing the systems.

- Up to 12 systems can be controlled from a single System Control module.

- A new System Navigator is designed to control the individual systems. Numerical run data is available for all systems simultaneously while one system at a time can be selected to be displayed in the Run Data, Curves and Logbook panes.

- The available data for all systems in the expanded System Navigator include remaining run time for each system.

- New command buttons (Pause all, Continue all and End all) control all systems simultaneously.

Network functions

- Socket settings are edited in the system setup.

- Settings for all computers in a network can be edited by the system administrator from a single workstation.

OPC

- Compliance tested for the OPC Data Access 2.05A specification.

- Compliance tested for the OPC Alarms & Events 1.1 specification.

- Supports the OPC Security 1.0 interface.

- Supports the Historical Data Access 1.1 specification.

- More functionality added to Data Access.

Control cards

- UNICORN 5.0 supports CU-900 PCI and the new CU-950 unit. AT and ISA control cards are not supported.

- A new control unit, CU-950 is introduced:

  CU-950 is available with two different connection options: CU-950 USB and CU-950 Advanced.

  The CU-950 units can be installed without opening the controlling computer and operate with their own power supplies, independent of the controlling workstation.

  The CU-950 USB is installed using a USB interface. Each workstation can use one CU-950 USB.

  The CU-950 Advanced is connected to a network via an Ethernet interface and operates from a designated IP adress. Each workstation can control up to four CU-950 Advanced.

  A flash memory card is included in the CU-950 Advanced enabling the unit to buffer run data in the event of a computer failure or broken communication between the unit and the work station.

  The CU-950 control unit allows a laptop computer to be used as a controlling work station.

  The CU-950 control units are designed to be backward compatible with CU-900 strategies.

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