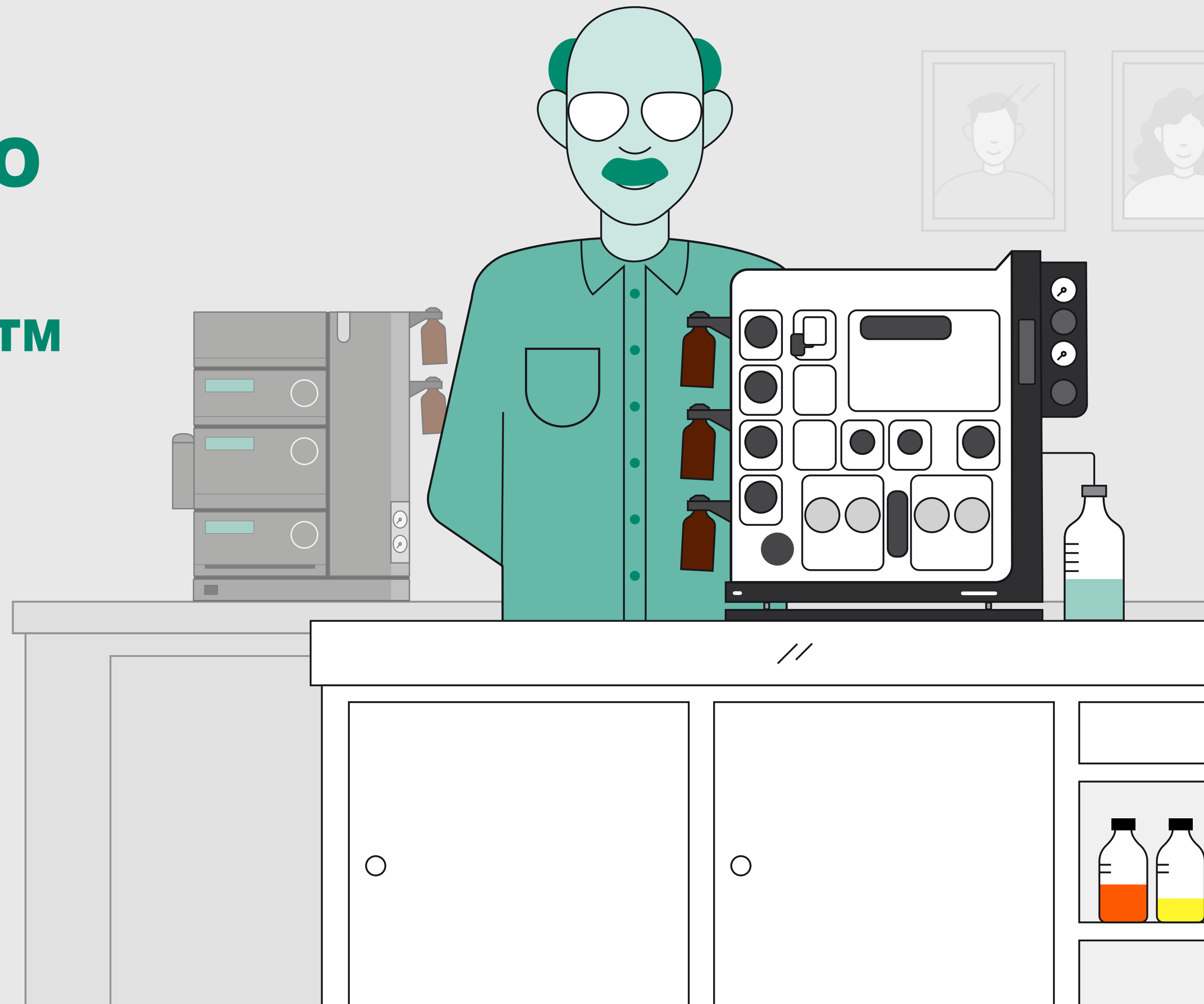


Comparison guide: the advanced system vs the historic systems

Meet the latest member of the oligo synthesis family, the ÄKTA oligosynt™ synthesizer



The latest ÄKTA oligosynt™ vs legacy ÄKTA™ oligopilot plus oligonucleotide synthesizer

Increased flexibility in scale and number of monomers

	Latest system	Legacy system
Similar footprint (W × H × D)	<ul style="list-style-type: none">535 × 630 × 470 mm Excludes space required for amidites and reagents700 × 630 × 540 mm Fully equipped	<ul style="list-style-type: none">450 × 610 × 480 mm Excludes space required for amidites and reagents
Similar weight	64 kg (fully equipped)	63 kg
System access	Open front keeps modules and full flowpath within reach	Modules and flowpath behind closed door, limited monomer access
Flexible synthesis scale	10 µmol to 12 mmol One system to install and maintain for a flexible scale range	<ul style="list-style-type: none">ÄKTA™ oligopilot plus 10: 10–50 µmolÄKTA oligopilot plus 100: 50 µmol to 9 mmol
Increased flow rate	300 mL/min (two pumps)	<ul style="list-style-type: none">ÄKTA oligopilot plus 10: 20 mL/min (two pumps)ÄKTA oligopilot plus 100: 200 mL/min (two pumps)
Increased amidite inlets	16	12
Streamlined column positions	5	7
Increased reagent and solvent inlets	14	11
Increased waste outlets	11	8
Increased maximum operating pressure	25 barg	20 barg

Interactive user interface and method editing

	Latest system	Legacy system
Vastly improved control software	UNICORN™ 7.8 or higher	UNICORN 5
Superior process picture	Extended interactivity <ul style="list-style-type: none">Highlights the most important data and allows access to necessary functionalityInteractive process picture with easy monitoring of your run	Limited interaction
Assured method creation	Sequence editor <ul style="list-style-type: none">Copy-and-paste sequence function for assured sequence entry	Sequence editor <ul style="list-style-type: none">No copy-and-paste sequence function
User-friendly method editing	Text editing and phase editor <ul style="list-style-type: none">User-friendly interface, creating a method by drag and drop of modules for a successful first synthesis.Easy overview for changing variables for each cycle or all at once.Create your own user-defined phases and reuse parts of methods	Method creation and editing by experienced programming of a text method.

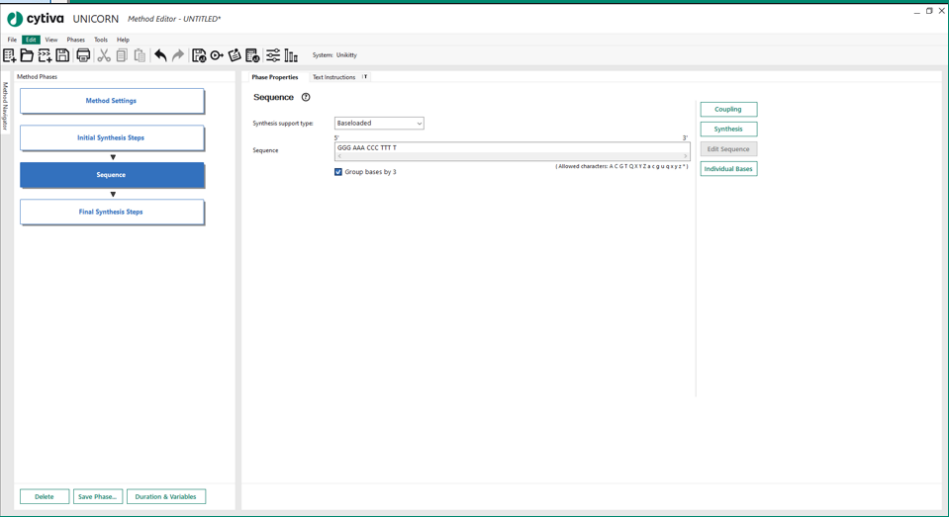
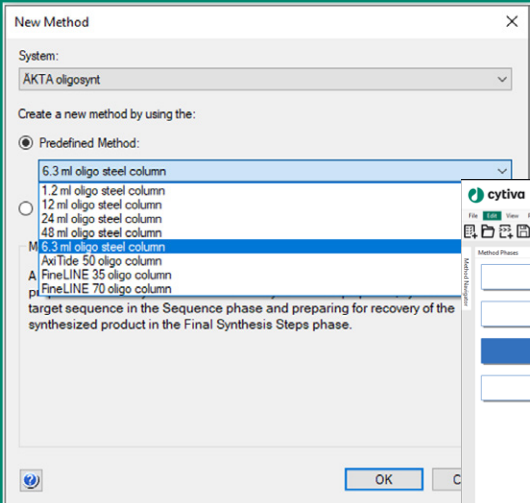
Table showing instruments with UNICORN software and Windows compatibility

System	UNICORN	Windows
ÄKTA oligopilot 10/100	UNICORN 5.31	Windows XP, Windows 7, and Windows 10
OligoPilot™ 400	UNICORN 5.31	Windows XP, Windows 7, and Windows 10
ÄKTA oligosynt	UNICORN 7.8 and later	Windows 7 and later
OligoPilot™	UNICORN 7.8 and later	Windows 7 and later
OligoProcess™	UNICORN 7.8 and later	Windows 7 and later

Why UNICORN™ 7?

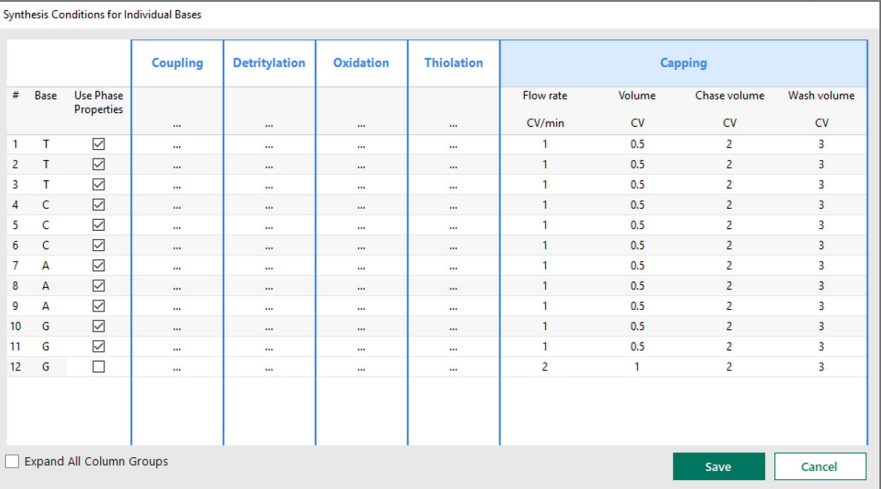

Create a method and successfully do your first synthesis with ease and speed using verified parameters adopted to your individual sequence

Predefined methods to get you started within minutes with minimum interactions to get validated instructions in phases for a method ready to run.



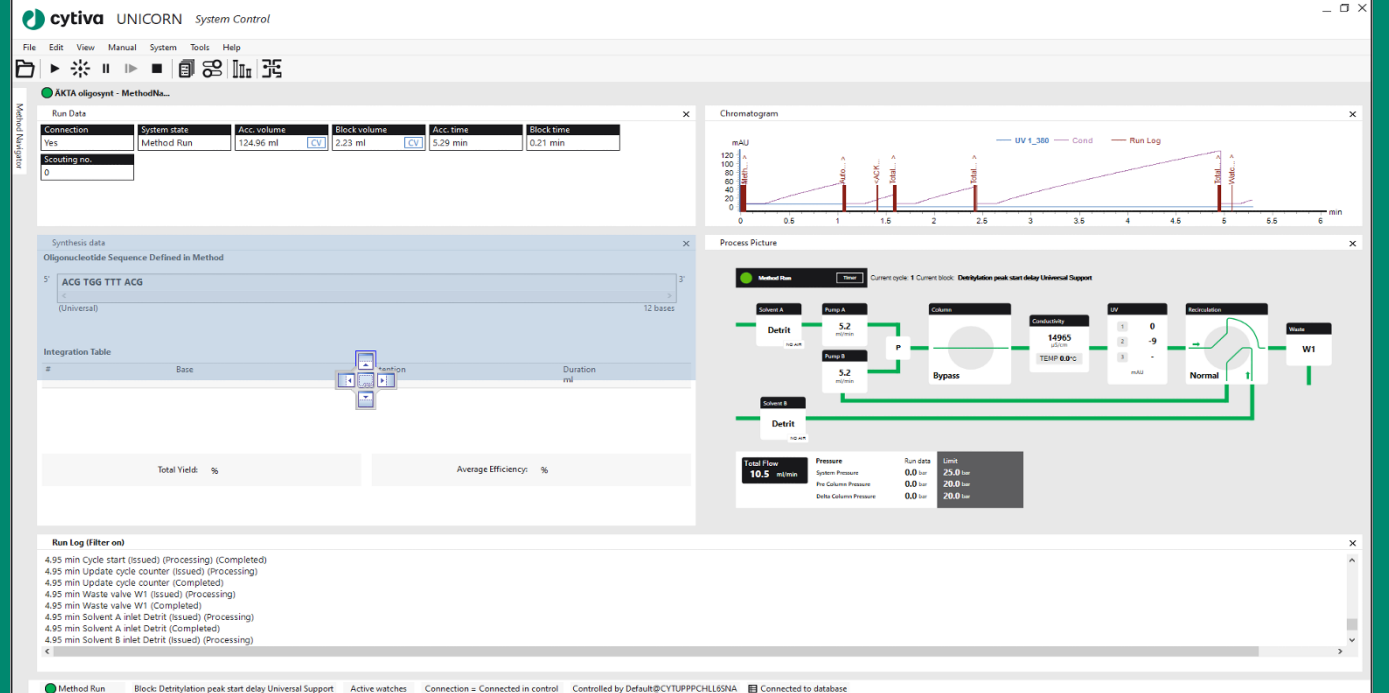
1. Select the column to be used
2. Select support type (base load or UnyLinker)
3. Copy and paste your target sequence

Easy overview to set conditions and parameters for all bases or individually.

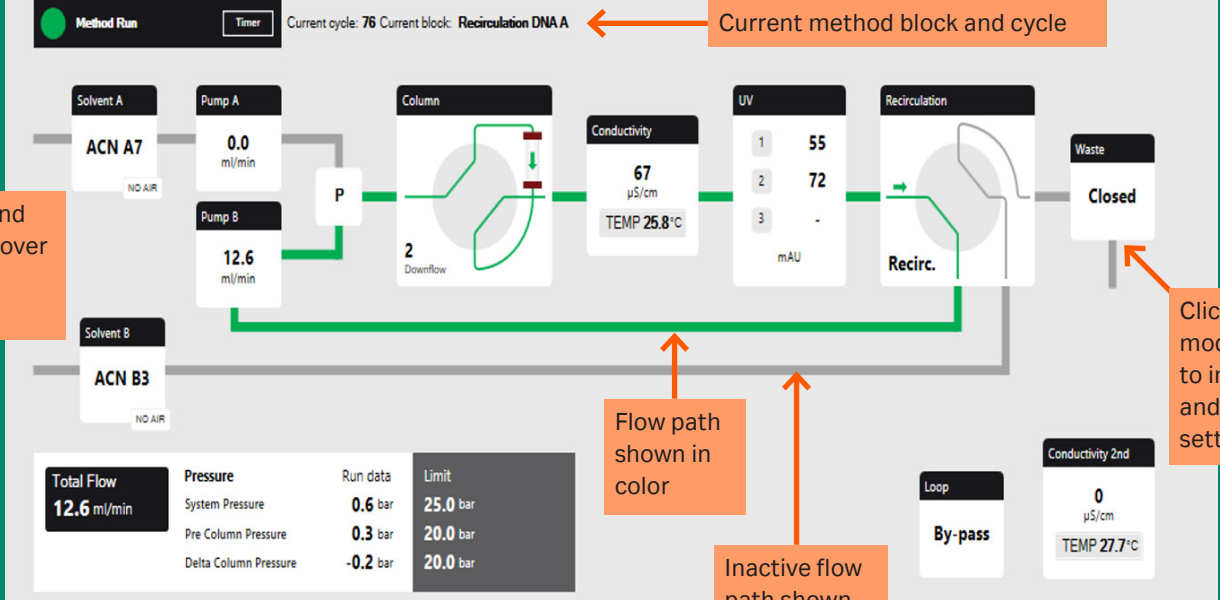


4. Set synthesis conditions (one pop-up for all bases)
5. Optimize parameters individually

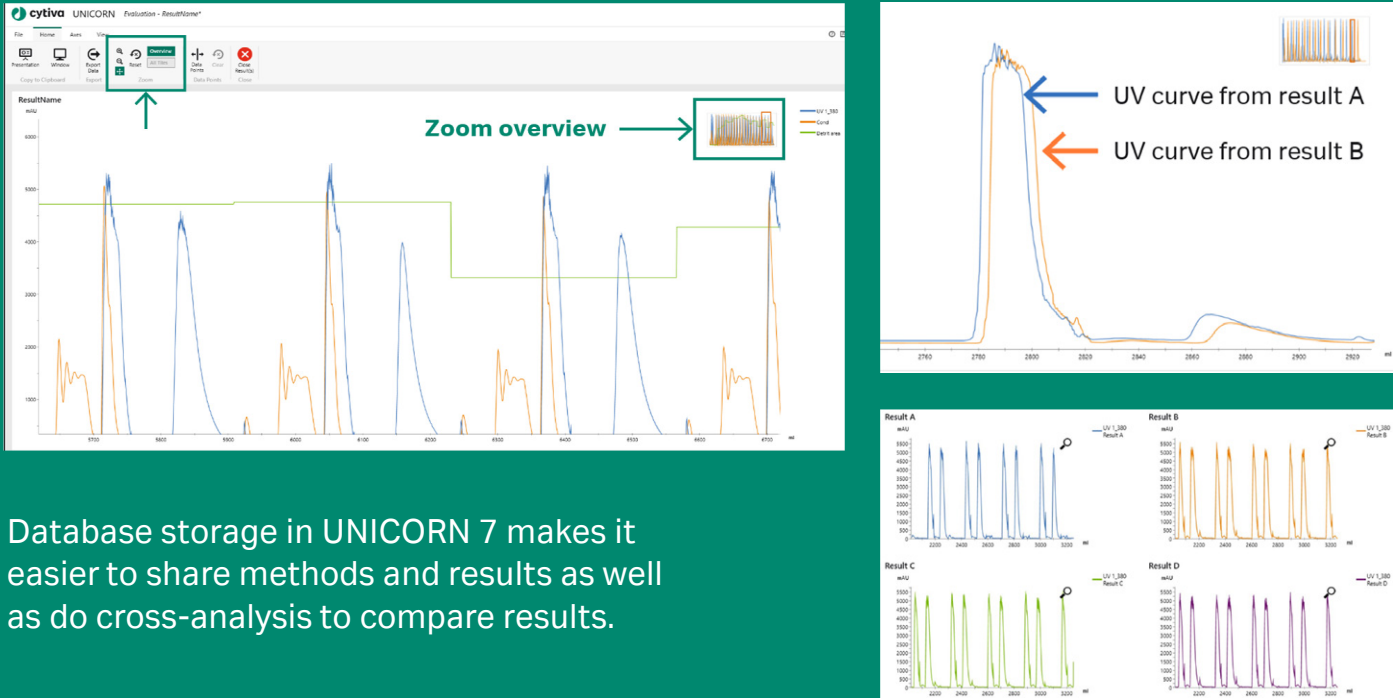
Design your own layout of system control panel with run data, synthesis data (coupling efficiency table), run log, chromatogram pane, and process picture.



Intuitive access to all essential information with interactive process picture.

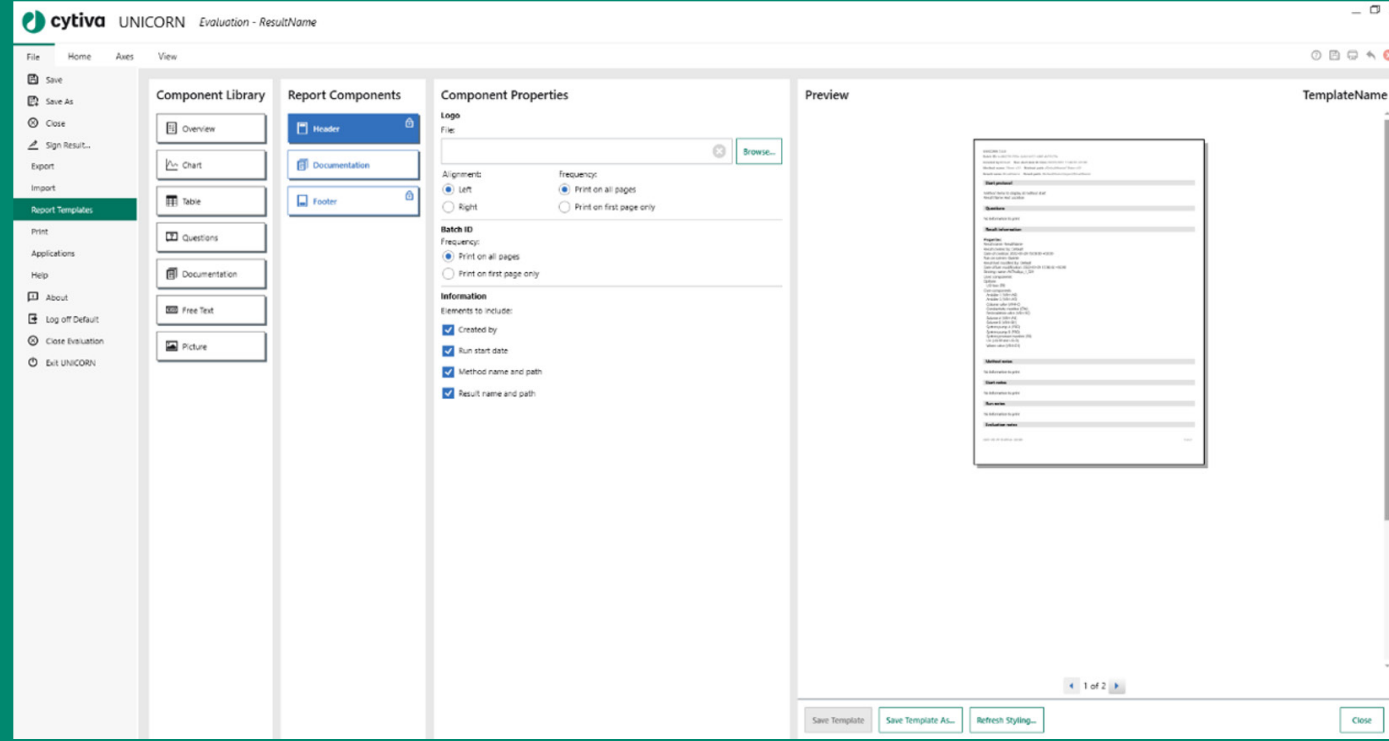


Evaluation using Zoom to reveal details even for longer runs, compare curves by overlay from multiple results or side-by-side by tiling them.



Database storage in UNICORN 7 makes it easier to share methods and results as well as do cross-analysis to compare results.

Create your own report template to view the results and information you need in the same format every time.



Increased and robust process control

	Latest system	Legacy system
Sensors	<ul style="list-style-type: none">• Conductivity• UV• Pressure• Air• Temperature• Pre-column temperature and conductivity (optional)	<ul style="list-style-type: none">• Conductivity• UV• Pressure
Method overview	Improved transparency with fewer macros	Complicated, hard-coded macros
Data collection	Up to 180 000 data points for improved robustness further sampling rate during run	Up to 16 000 data points
Data handling	Database storage <ul style="list-style-type: none">• Easier cross-analysis; easier data handling	File-based data storage
User access	Easy user admin by active directory authorization and rules of password changed for increased and adjusted user security	Only UNICORN authentication and password policy cannot be changed

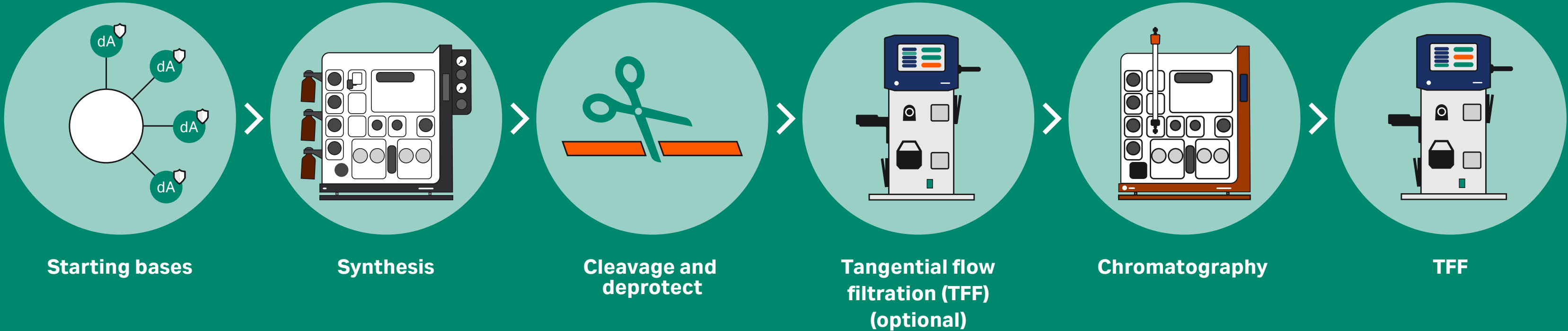
Intuitive user interface

	Latest system	Legacy system
System module access	Open front allows easy access to system modules and supports full ventilation	Enclosed system modules
Flow path	One wet side supports optimized flow path and hold-up volume <ul style="list-style-type: none">• Limits the dilution of amidites• Reduces use of reagents and solvents, supporting future scale-up requirements	Two wet sides and fewer inlets
Bottle holder	Bottle holders on system rails; space for up to 16 amidite bottles up to 900 mL	Bottle sliders: space for up to 12 amidite bottles up to 100 mL
System components	Same verified and standardized components used in our ÄKTA chromatography systems Supports faster service and easy access to components	Ageing system components
Optional modules	Options include: <ul style="list-style-type: none">• Loop valve to connect multiple heat exchangers• Pre-column conductivity monitor with built-in temperature sensor• Connection of external flow meter and external sensors through the I/O-box	None
Recirculation	Yes	Yes

Take home messages

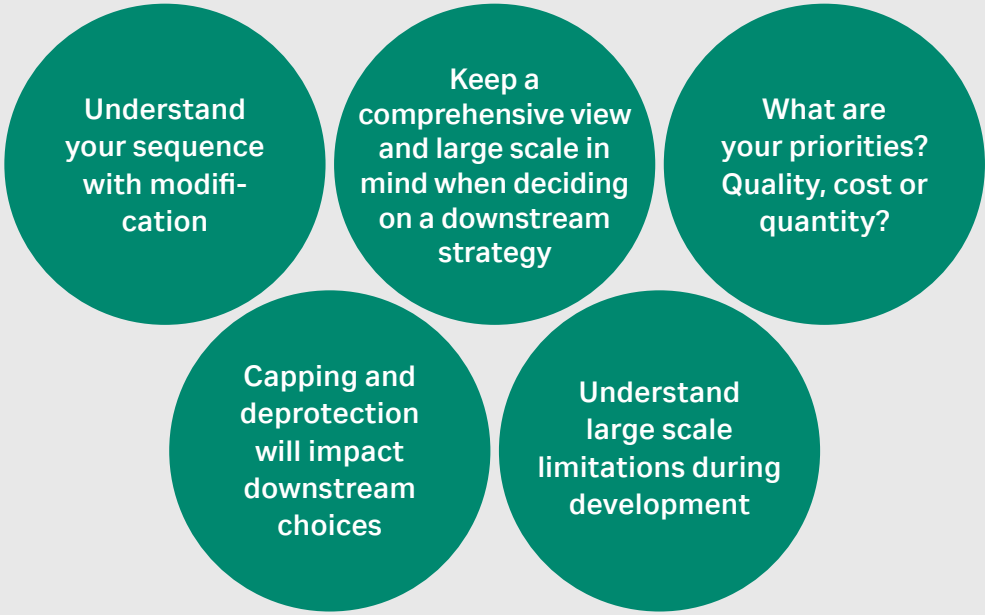
ÄKTA oligosynt synthesizer is designed to fulfill the same high-quality requirement of oligonucleotides as the legacy systems

- It's a small-scale system designed for maximum flexibility and support for operators
- It's built for flexible oligonucleotide synthesis for scales from research to process development laboratories
- UNICORN 7 on the ÄKTA oligosynt synthesizer enables an easy to-create and optimize, robust, and scalable synthesis method for oligonucleotide synthesis
- It provides a global application, full service support, and spare part stock managed locally, not centrally
- The system has short lead times



Top tip!

Take a step back and make decisions with your full oligo processing in mind early in development to understand consequences when scaling up. Let us share our lessons from over 40 years of oligo manufacturing experience across more than 25 countries, to future-proof your oligo workflow.



Policy for end of service

Interested in our policy for end of service support on the synthesis systems?

[Read more here](#)





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