



**ThermoFisher**  
S C I E N T I F I C

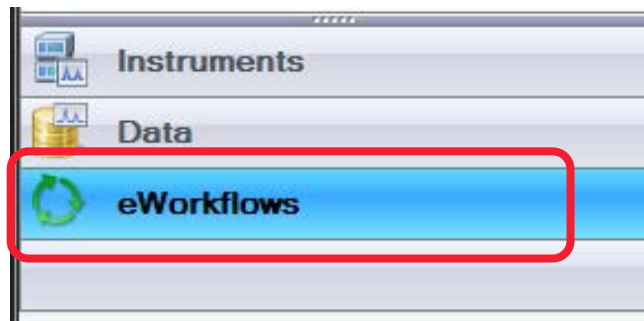
# Chromeleon 7.2 CDS eWorkflows Simply Intelligent

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# Der eWorkflow – der clevere Schritt zur neuen Sequenz

- Thermo Scientific™ Chromleon™ 7.2 Chromatographie Datensystem (CDS):  
In der Konsole gelangen Sie in die Kategorie „eWorkflows“.



- eWorkflows sind zusammengefasste Arbeitsschritte zur Vereinheitlichung einer chromatographischen Analyse.



- Kategorie eWorkflows

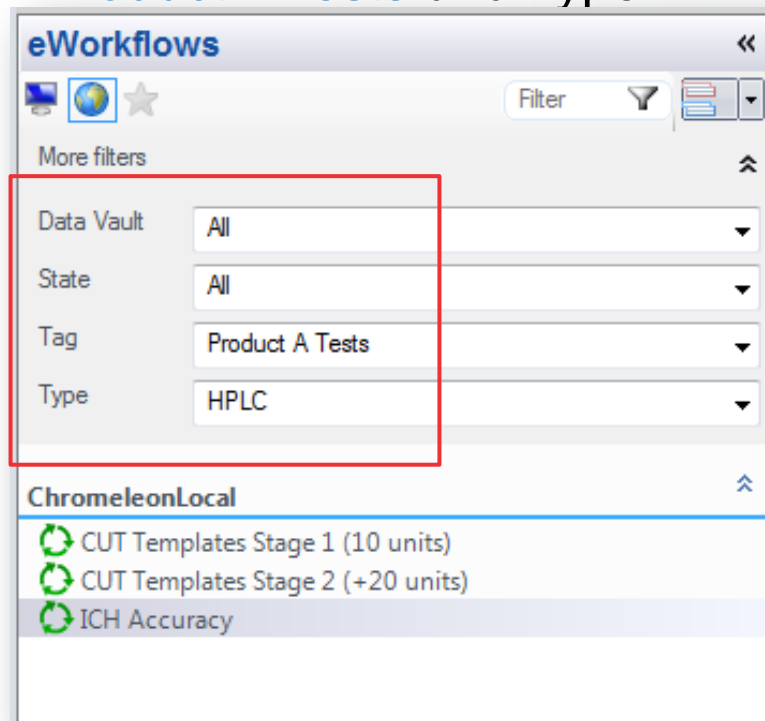
The screenshot displays the Chromeleon Console interface. The main window title is 'Chromeleon Console'. The menu bar includes 'Back', 'Create', 'File', 'Edit', 'View', 'Tools', and 'Help'. The left sidebar shows a tree view with categories: 'eWorkflows', 'HPLC', 'Labor 1', 'Labor 2', 'Instruments', 'Data', and 'eWorkflows' (highlighted). The main content area shows the configuration for the selected eWorkflow '02 geschlossener eWorkflow'. The description is 'UHPLC Methode Produkt\_A für die Schichtarbeiter keiner Eingaben mehr notwendig auuser der Probenanzahl alles ist vorgegeben'. The type is 'HPLC' and the status is 'Approved'. Below this, there is a 'Launch' button and a table with columns: '#', 'Instrument Name', 'Instrument Status', 'Sequence Status', and 'Queue Status'. The table contains two rows: Row 1: '1', 'UltiMateRSLC', 'Idle', 'Sequence Status' is empty, 'Queue Status' is 'Pending sequences: 1'. Row 2: '2', 'Vanquish', 'Idle', 'Sequence Status' is empty, 'Queue Status' is empty. The status bar at the bottom indicates 'eWorkflow '02 geschlossener eWorkflow' selected' and 'Matthias: Full Access'.

#	Instrument Name	Instrument Status	Sequence Status	Queue Status
1	UltiMateRSLC	Idle		Pending sequences: 1
2	Vanquish	Idle		

- Ein eWorkflow erstellt eine Chromeleon 7.2 Sequenz mit **allen** notwendigen Objekten und Zuweisungen
  - Name und Speicherplatz einer Sequenz
  - Liste der zu verwendenden Instrumente
  - Injektionsliste mit der vorgegebenen Reihenfolge der Injektionen
  - Festgelegtes Injektionsvolumen, Einwaagen, Verdünnung etc.
  - Instrumenten- & Auswertemethode, Bildschirmansicht, Reportvorlage
  - Dokumente, wie z.B. SOP zur Methode im PDF Format

- Filter-Funktionen für eWorkflows in der Konsole
  - Filter-Kriterien : Data Vault, State, **Tags**, Type

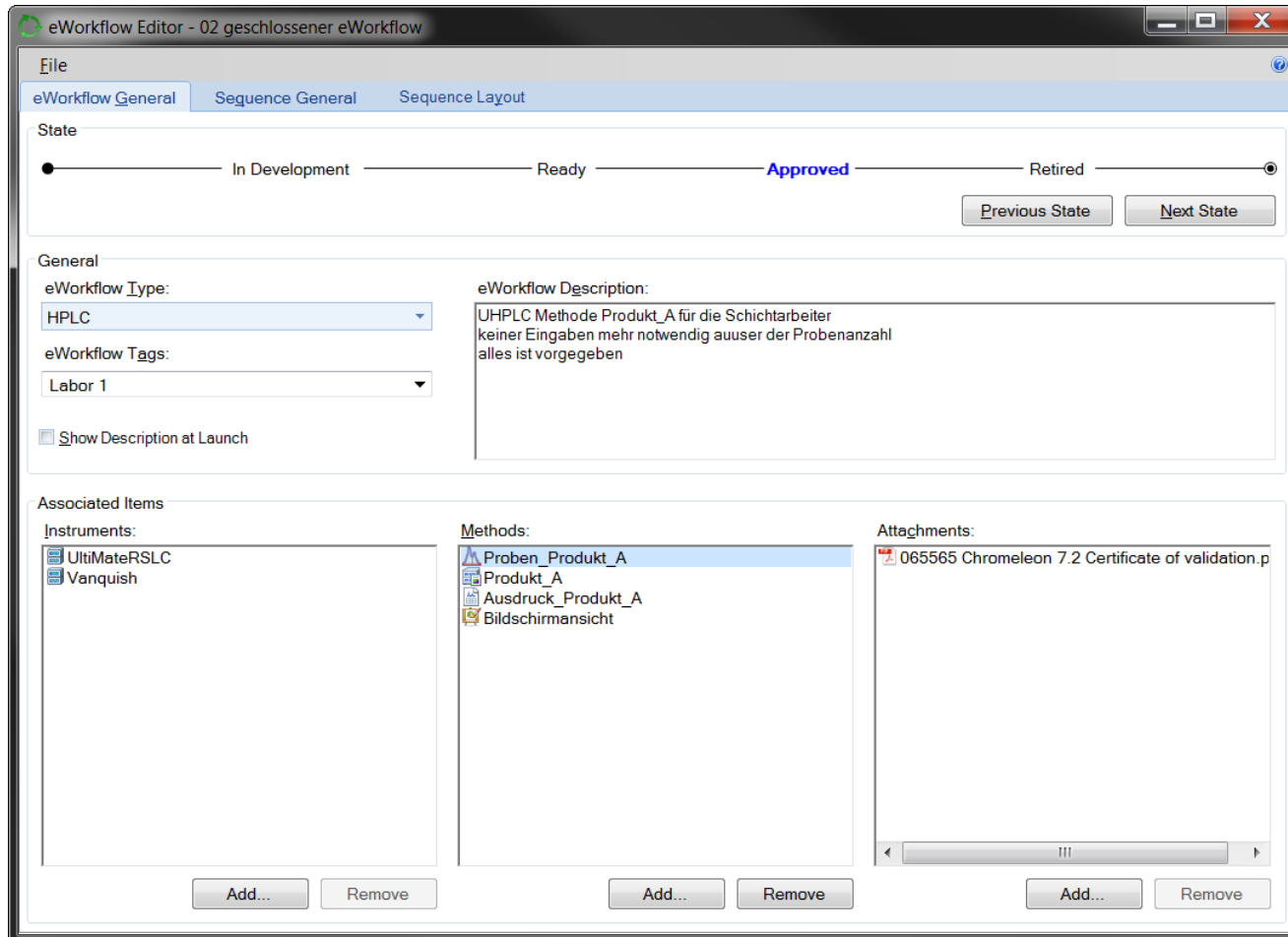
**Filter:** Product A Tests und Type HPLC



The screenshot displays the 'eWorkflows' interface. At the top, there is a 'Filter' button with a funnel icon and a dropdown menu. Below this, a 'More filters' section is expanded, showing four filter criteria: 'Data Vault' (set to 'All'), 'State' (set to 'All'), 'Tag' (set to 'Product A Tests'), and 'Type' (set to 'HPLC'). A red rectangular box highlights these four filter settings. Below the filter section, the 'ChromeleonLocal' section is visible, listing three workflow items: 'CUT Templates Stage 1 (10 units)', 'CUT Templates Stage 2 (+20 units)', and 'ICH Accuracy'.

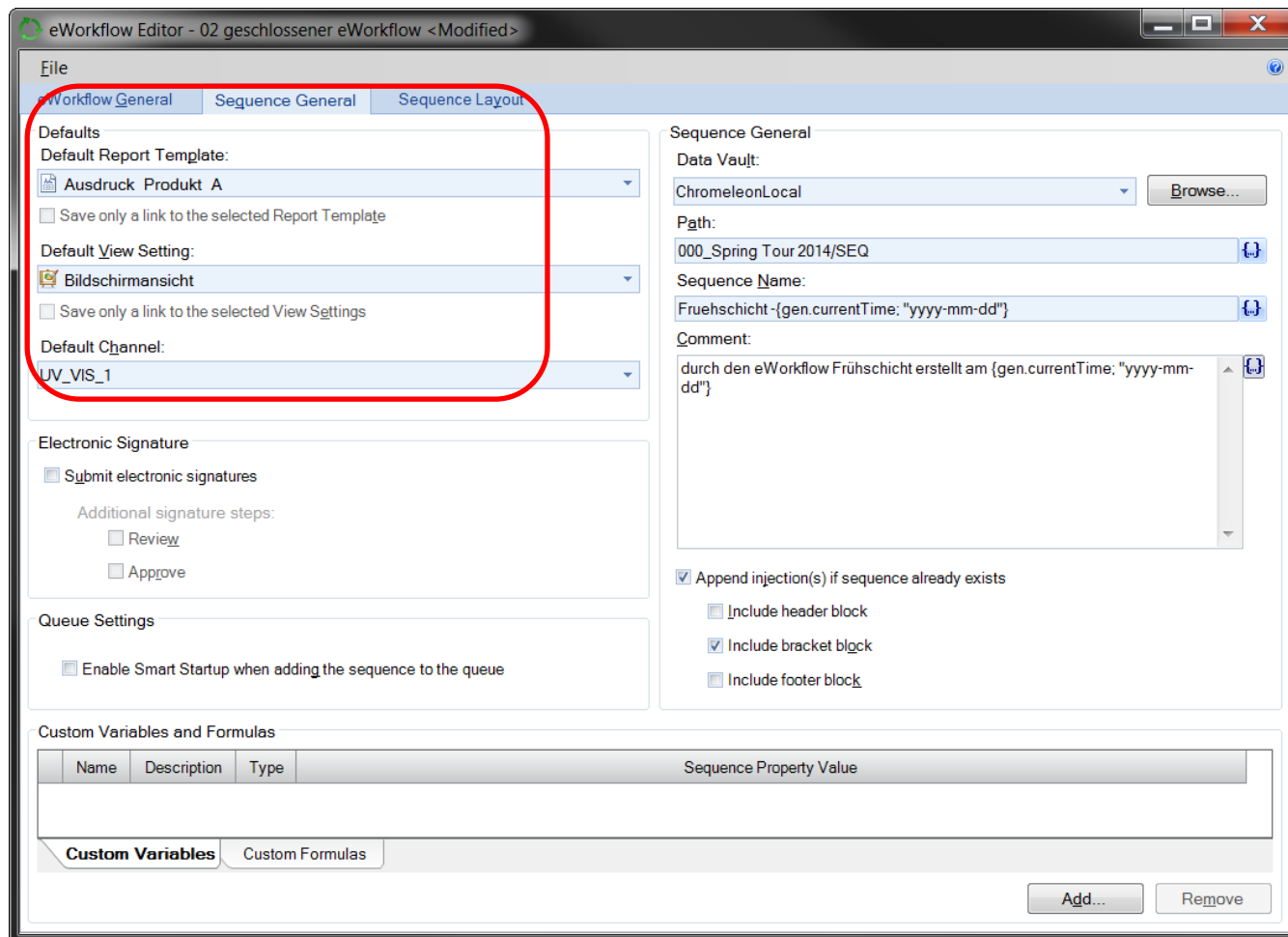
# Erstellen des eWorkflows – eWorkflow General

- Auswahl: Instrumente, Methoden, Attachments, Tags, Status



# Erstellen des eWorkflows – *Sequence General*

- Auswahl: Zu verwendende Reports, Bildschirmansichten & Kanäle



# Erstellen des eWorkflows – *Sequence General*

- Chromeleon Variablen erstellen  
Ordner, Sequenzname und Kommentar

The screenshot displays the eWorkflow Editor interface. The main window is titled "eWorkflow Editor - 02 geschlossener eWorkflow <Modified>". The "Sequence General" tab is active, and its settings are highlighted with a red circle. The settings include:

- Data Vault:** ChromeleonLocal
- Path:** 000\_Spring Tour 2014/SEQ
- Sequence Name:** Fruehschicht - {gen.currentTime; "yyyy-mm-dd"}
- Comment:** durch den eWorkflow Fruehschicht erstellt am {gen.currentTime; "yyyy-mm-dd"}

Below the main settings, there are checkboxes for "Append injection(s) if sequence already exists", "Include header block", "Include bracket block", and "Include footer block".

The "Insert Formula" dialog is open, showing the "General" category selected. The "Variables" list includes "Current Time", which is selected. The "Formula" field contains "gen.currentTime". The "Header" field contains "Current Time". The "Unit" field is empty. The "Format" dropdown is set to "yyyy-mm-dd". The "Preview" field shows the resulting formula: "{gen.currentTime; 'yyyy-mm-dd'}".

At the bottom of the main window, there is a table for "Custom Variables and Formulas" with columns for Name, Description, Type, and Sequence Property Value. The "Custom Variables" tab is selected.



# eWorkflows – Sequenzerstellung über Variablen

- Verwenden Sie Variablen zum automatischen Erstellen von:
  - Speicherort incl. neu zu erstellenden Ordnern
  - Automatischer Sequenzname
  - Sequenzkommentar

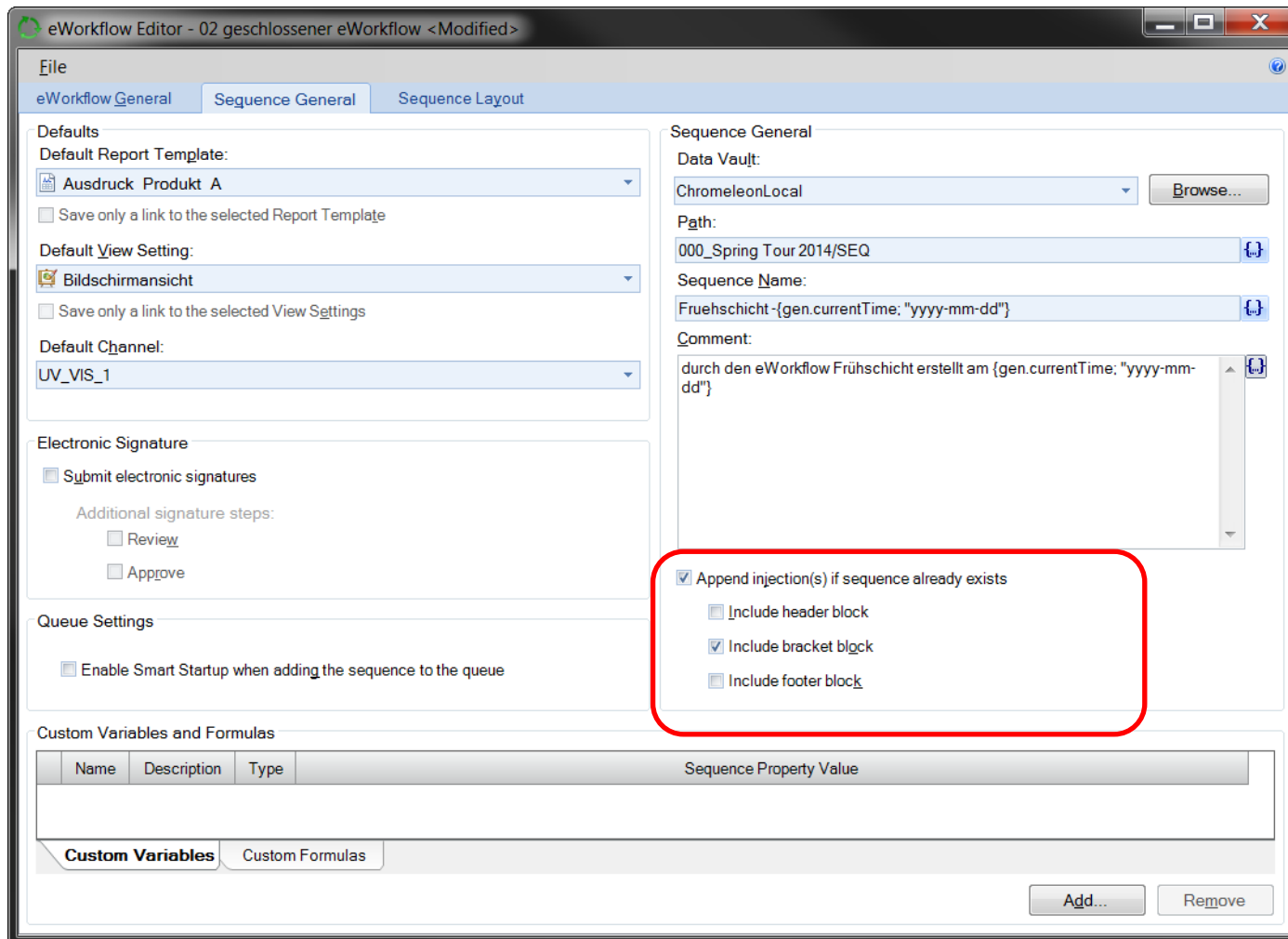
The screenshot shows the 'Sequence General' configuration window with the following fields and callouts:

- Speicherort:** Points to the 'Data Vault' dropdown menu, which is set to 'ChromeleonLocal'.
- Aktive Ordnerstruktur:** Points to the 'Path' field, which contains '000\_Spring Tour 2014/SEQ/{gen.currentTime; "yyyy-mm"}'.
- Dynamischer Sequenzname:** Points to the 'Sequence Name' field, which contains 'Fruehschicht -{gen.currentTime; "yyyy-mm-dd"}'.
- Kommentar aus Variablen:** Points to the 'Comment' field, which contains 'durch den eWorkflow Frühschicht erstellt am {gen.currentTime; "yyyy-mm-dd"}'.

**Standardisiert! Keine Anwenderaktion nötig**

# Erstellen des eWorkflows – *Sequence General*

- Anhängen von Proben an eine bestehende Sequenz



# eWorkflows – voreingestellte Vial-Positionen

eWorkflow Editor - A\_GC\_positions\_test <Modified>

File | eWorkflow General | Sequence General | Sequence Layout

Max. Samples per Bracket: 1 | Max. Brackets per Sequence: 5 | No. of alternate Brackets: 1 |  Use Bracket Block after Sequence Header

Chromatogram	No. of Inj.	Type	Name	Level	Spike Group	Position	Volume
Sequence Header - 1 item							
n.A.	1	Calibration Standard	calibration#n_#p_#i_#y_#r			R:A1	2.200
Sample Block - 1 item							
n.A.	2	Unknown	sample #n_#p_#i_#y_#r			<defined at launch>	1.400
Bracket - 1 item							
n.A.	1	Unknown	bracket#n_#p_#i_#y_#r			6	0.500
Alternating Bracket 1 - 1 item							
n.A.	1	Unknown	bracket2_#n_#p_#i_#y_#r			7	6.100
Sequence Footer - 1 item							
n.A.	1	Check Standard	footer#n_#p_#i_#y_#r			test2	3.100

Sequence Preview

Number of Samples: 1 | vanquish on DEGER-C-NSPRUNK | Sampler start position: R:A2 | Try Launch

#	Chromatogram	Type	Name	Level	Spike Group	Position	Volume	Instrument Method
1	None	Calibration Standard	calibration1_R:A1_2_2_1_1_1			R:A1	2.20	GC6890_InstrumentMethod
2	None	Calibration Standard	calibration2_R:A1_2_2_2_2_1			R:A1	2.20	GC6890_InstrumentMethod
3	None	Unknown	bracket3_R:A7_0.5_1_1_1			R:A7	0.50	GC6890_InstrumentMethod
4	None	Unknown	sample 4_R:A2_1.4_2_1_1			R:A2	1.40	GC6890_InstrumentMethod
5	None	Unknown	sample 5_R:A2_1.4_3_2_1			R:A2	1.40	GC6890_InstrumentMethod
6	None	Unknown	bracket2_6_912395_6.1_4_1_1			912395	6.10	GC6890_InstrumentMethod
7	None	Check Standard	footer7_test2_3.1_1_1_1			test2	3.10	GC6890_InstrumentMethod

'test2' is not a valid autosampler position

Feste Position RA1

Leeres Feld =  
Festlegung bei Start

Feste Nummern-  
Position

Instrumentenwahl

Probengeber-Position

Testlauf starten

- Festlegen von Vial Positionen
  - Feste Vial Position, z.B. RA1
    - Passt sich dem Autosampler an
- Kalibrierungen und Spülproben stehen so immer auf einer festen Position
- Probenposition ist variabel
- Try Launch – Schaltfläche
  - Vorschau mit Auswahl eines Instruments und einem Testlauf

# Erstellen des eWorkflows – Sequence Layout

- Sequence Layout incl. eigener Variablen

eWorkflow Editor - 02 geschlossener eWorkflow <Modified>

File eWorkflow General Sequence General Sequence Layout

Max. Samples per Bracket: 1 Max. Brackets per Sequence: 99 No. of alternate Brackets: 0  Use Bracket Block after Sequence Header

Chromatogram	No. of Inj.	Name	Type	Position	Volume	*test	Instrument Method	Processing Method	Status	Inject Time	Weight	Dilution
Sequence Header - 1 item												
n.A.	1	Spülen	Blank	A01	5,000 [µl]		Produkt_A	Proben_Produkt_A	Idle		1,000	1,000
New eWorkflow Injection Template												
Sample Block - 2 items												
n.A.	1	<HIER PROBENNAME>	Unknown	<defined at launch>	5,000 [µl]	TEST1	Produkt_A	Proben_Produkt_A	Idle		1,000	1,000
n.A.	1	<HIER PROBENNAME>	Unknown	<defined at launch>	5,000 [µl]	TEST1	Produkt_A	Proben_Produkt_A	Idle		1,000	1,000
New eWorkflow Injection Template												
Bracket - 1 item												
n.A.	1	Spülen	Blank	A01	5,000 [µl]		Produkt_A	Proben_Produkt_A	Idle		1,000	1,000
New eWorkflow Injection Template												
Sequence Footer - 1 item												
n.A.	1	Spülen	Blank	A01	1,000 [µl]			Proben_Produkt_A	Idle		1,000	1,000
New eWorkflow Injection Template												

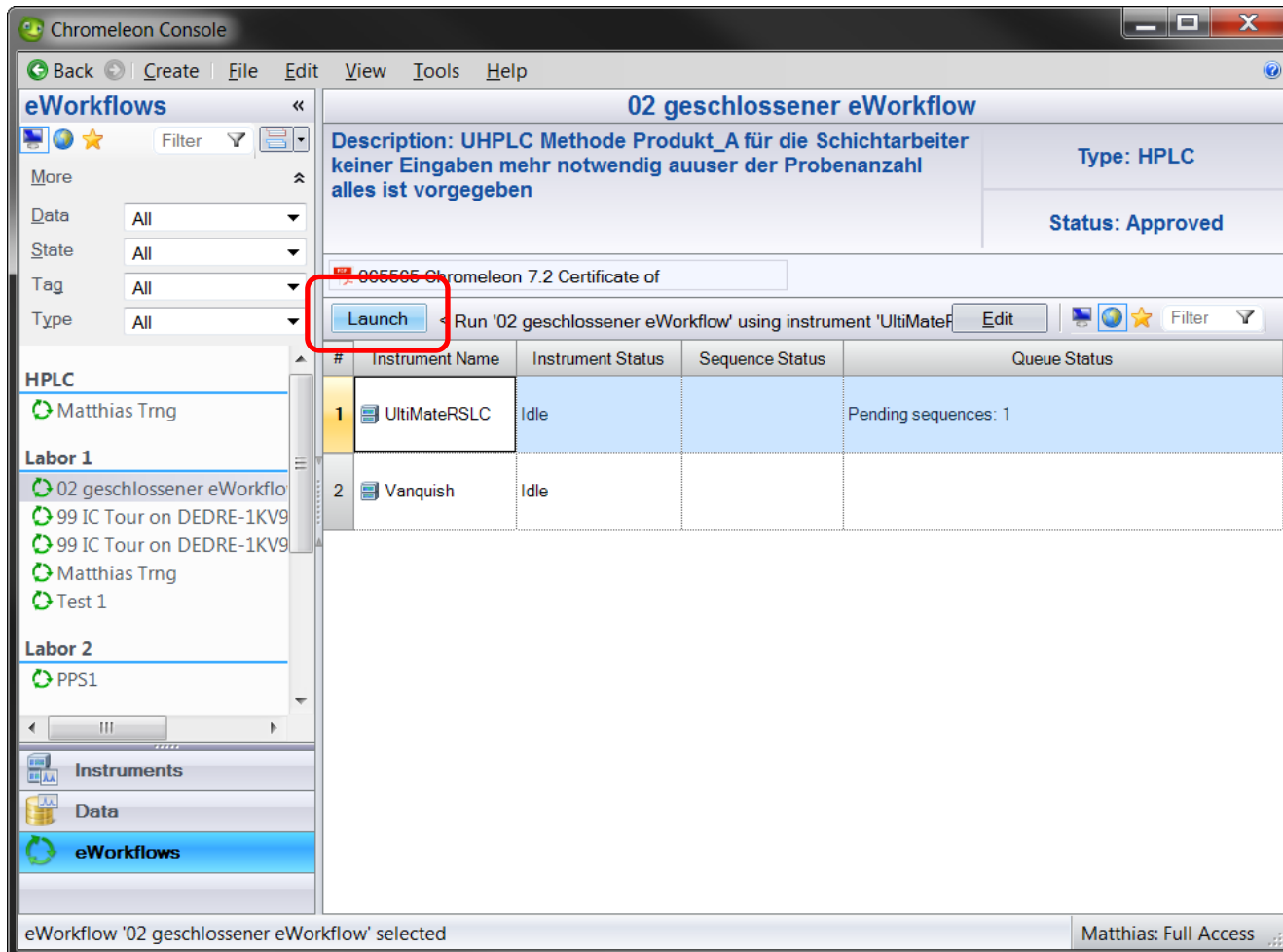
Sequence Preview

Number of Samples: 1  Sampler start position:  Try Launch

#	Chromatogram	Name	Type	Position	Volume	*test	Instrument Method	Processing Method	Status	Inject Time	Weight	Dilution	Comments
1	None	Spülen	Blank	A01	5,000		Produkt_A	Proben_Produkt_A	Idle		1,000	1,000	Blank.dad3000
2	None	Spülen	Blank	A01	5,000		Produkt_A	Proben_Produkt_A	Idle		1,000	1,000	Blank.dad3000
3	None	<HIER PROBENNAME>	Unknown	n.a.	5,000	TEST1	Produkt_A	Proben_Produkt_A	Idle		1,000	1,000	Linearity 2 run 1 da
4	None	<HIER PROBENNAME>	Unknown	n.a.	5,000	TEST1	Produkt_A	Proben_Produkt_A	Idle		1,000	1,000	Linearity 2 run 2 da
5	None	Spülen	Blank	A01	5,000		Produkt_A	Proben_Produkt_A	Idle		1,000	1,000	Blank.dad3000
6	None	Spülen	Blank	A01	1,000			Proben_Produkt_A	Idle		1,000	1,000	

# Sequenz erstellen via eWorkflow – Schritt 1/3

- Starten des eWorkflows über 



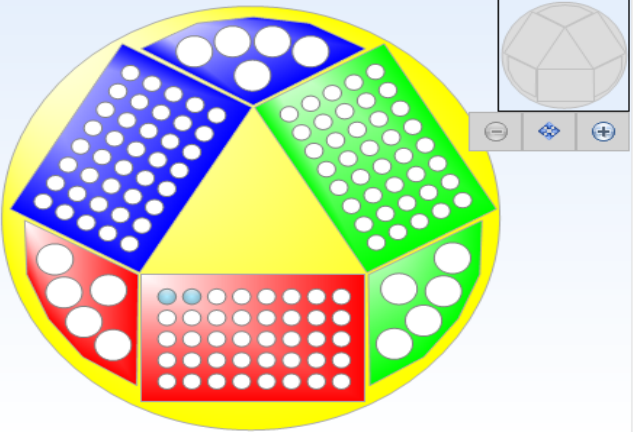
The screenshot displays the Chromeleon Console interface. The main window title is "Chromeleon Console". The menu bar includes "Back", "Create", "File", "Edit", "View", "Tools", and "Help". The left sidebar shows a tree view with "eWorkflows" selected, and a list of workflows including "02 geschlossener eWorkflow". The main area displays the details for the selected workflow, "02 geschlossener eWorkflow", with a description: "UHPLC Methode Produkt\_A für die Schichtarbeiter keiner Eingaben mehr notwendig auuser der Probenanzahl alles ist vorgegeben". The workflow type is "HPLC" and the status is "Approved". A "Launch" button is highlighted with a red box. Below the details, there is a table with columns: "#", "Instrument Name", "Instrument Status", "Sequence Status", and "Queue Status". The table contains two rows: Row 1: "1", "UltiMateRSLC", "Idle", "Sequence Status", "Pending sequences: 1"; Row 2: "2", "Vanquish", "Idle", "Sequence Status", "Queue Status". The status bar at the bottom indicates "eWorkflow '02 geschlossener eWorkflow' selected" and "Matthias: Full Access".

# Sequenz erstellen via eWorkflow – Schritt 2/3

- Anzahl Proben angeben - *Finish*

eWorkflow Wizard

**Sample Configuration**  
Define the desired number of samples and the corresponding start position



Number of samples:  [1...67]

Sampler start position:  [RA1...B5]

Run sequence after creation

Sequence Preview

#	Chromatogram	Name	Type	Position	Volume [µl]	*test	Instrument Method	Processing Method	Status	Inj
1	None	Spülen	Blank	A01	5,000		Produkt_A	Proben_Produkt_A	Idle	
2	None	Spülen	Blank	A01	5,000		Produkt_A	Proben_Produkt_A	Idle	
3	None	<HIER PROBENNAME>	Unknown	RA1	5,000	TEST1	Produkt_A	Proben_Produkt_A	Idle	
4	None	<HIER PROBENNAME>	Unknown	RA2	5,000	TEST1	Produkt_A	Proben_Produkt_A	Idle	
5	None	Spülen	Blank	A01	5,000		Produkt_A	Proben_Produkt_A	Idle	
6	None	Spülen	Blank	A01	1,000		Produkt_A	Proben_Produkt_A	Idle	

Cancel Finish

# Sequenz erstellen via eWorkflow – Schritt 3/3

- Perfekt erstellte Sequenz - *Starten*

The screenshot displays the Chromeleon Console interface. The main window shows a sequence titled "Fruehschicht -2017-06-12". The sequence is composed of 6 steps, each with a specific name, type, position, volume, and method. The steps are as follows:

#	UV_VIS_1	Name	Type	Position	Volume [µl]	*test	Instrument Method	Processing Method
1	None	Spülen	Blank	BA1	5,000		Produkt_A	Proben_Produkt_A
2	None	Spülen	Blank	BA1	5,000		Produkt_A	Proben_Produkt_A
3	None	<HIER PROBENNAME>	Unknown	RA1	5,000	TEST1	Produkt_A	Proben_Produkt_A
4	None	<HIER PROBENNAME>	Unknown	RA2	5,000	TEST1	Produkt_A	Proben_Produkt_A
5	None	Spülen	Blank	BA1	5,000		Produkt_A	Proben_Produkt_A
6	None	Spülen	Blank	BA1	1,000		Produkt_A	Proben_Produkt_A

Below the sequence table, there is a section for "Associated Items" which lists various files and templates associated with the sequence:

Name	Date Modified	Type	Comment
065565 Chromeleon 7.2 C...	18.07.2013 12:38:06 +02...	Attachment	
Ausdruck_Produkt_A	25.04.2014 13:25:26 +02...	Report Template	
Bildschirmansicht	25.04.2014 13:25:26 +02...	View Settings	
Proben_Produkt_A	25.04.2014 13:25:26 +02...	Processing Met...	
Produkt_A	25.04.2014 13:56:42 +02...	Instrument Met...	

The interface also shows a file tree on the left with the selected sequence "Fruehschicht -2017-06-12" highlighted. The bottom status bar indicates "Sequence 'Fruehschicht -2017-06-12' selected" and "Matthias: Full Access".



- eWorkflows erstellen Sequenzen
  - Einfach und Standardisiert
  - Ordnerstruktur und Sequenznamen folgen einer festen Nomenklatur
  - Variablen sind miteingebunden
  - Vorgegebenes Sequenzlayout
  - Minimaler Aufwand für den Labormitarbeiter
  - Geringer Schulungsaufwand
  - Tags erleichtern die Zuordnung
  - Eigene Dokumentation wird eingebunden
- Einfach clever zur perfekten Sequenz

