

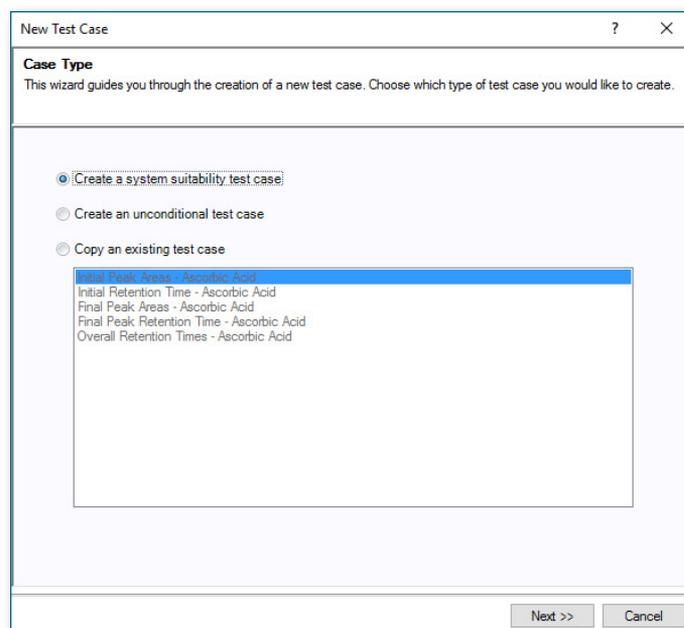


More 'right first-time' analyses

Thermo Scientific Chromeleon 7 Chromatography Data System

The Intelligent Run Control (IRC) feature in Thermo Scientific™ Chromeleon™ 7 Chromatography Data System (CDS) gives you complete control over your running sequence, giving you more 'right the first time' analyses. It is included as a standard feature requiring no extra licenses.

Actions can be defined conditionally or unconditionally to be performed at the end of each injection with a simple wizard to guide the user through setting up these conditional System Suitability Tests (SST) or unconditional cases. Existing test cases can be used as templates saving time and effort.



Wizard to create test cases.



For conditional SST cases, any variable can be monitored, including calculated amounts, allowing the user to perform specification checks during the run and react accordingly. The reference values themselves can be either fixed numbers or variables giving ultimate flexibility to create test cases.

The 'New Test Case' dialog, Evaluation tab, is used to define test conditions. It includes the following fields and options:

- Statistics:** A dropdown menu set to 'None'.
- Evaluation formula:** A text field containing 'peak.amount'.
- Operator:** A dropdown menu set to 'between'.
- Reference values:** Two text fields containing 'component.amount("min")' and 'component.amount("max")'.
- Round "Evaluation Result" and "Reference Value" to:** A dropdown menu set to '2' decimal places.
- Statistics condition:** A section with 'Include at least: 1' and 'and at most: 2' injections (incl. current injection).
- Only include injections with:** A checkbox that is unchecked, with a dropdown menu set to 'Injection Number' and an equals sign.
- Evaluation failure:** Radio buttons for 'Treat as "passed"' (selected) and 'Treat as "failed"'. Buttons for '<< Back', 'Next >>', and 'Cancel' are at the bottom.

Any variable including calculated amounts can be used for evaluation of the condition.

Different actions can be defined for passes and failures of the specified test. For example, if my test passes, I want to create a smoothed copy of my chromatogram, but if it fails, I want to re-inject the last Injection. An intuitive dialog allows the user to select, define, and re-order separate Pass and Fail Actions.

The 'New Test Case' dialog, Pass Actions tab, allows defining actions for successful test runs. It features:

- Available actions:** A list of actions including 'Smooth Channel', which is highlighted.
- Selected pass actions:** A list of two actions:
 - Copy Channel:** Original channel: 'UV_VIS_1', Result channel: 'UV_VIS_1_COPY'.
 - Smooth Channel:** Original channel: 'UV_VIS_1_COPY', Filter type: 'Moving Average', Filter size: '5', Result channel: 'UV_VIS_1_COPY_SM_MA_005'.
- If an action fails to execute:** A dropdown menu set to 'Continue to the next action'.
- Buttons for '<< Back', 'Next >>', and 'Cancel' at the bottom.

Dialog to define Pass Actions.

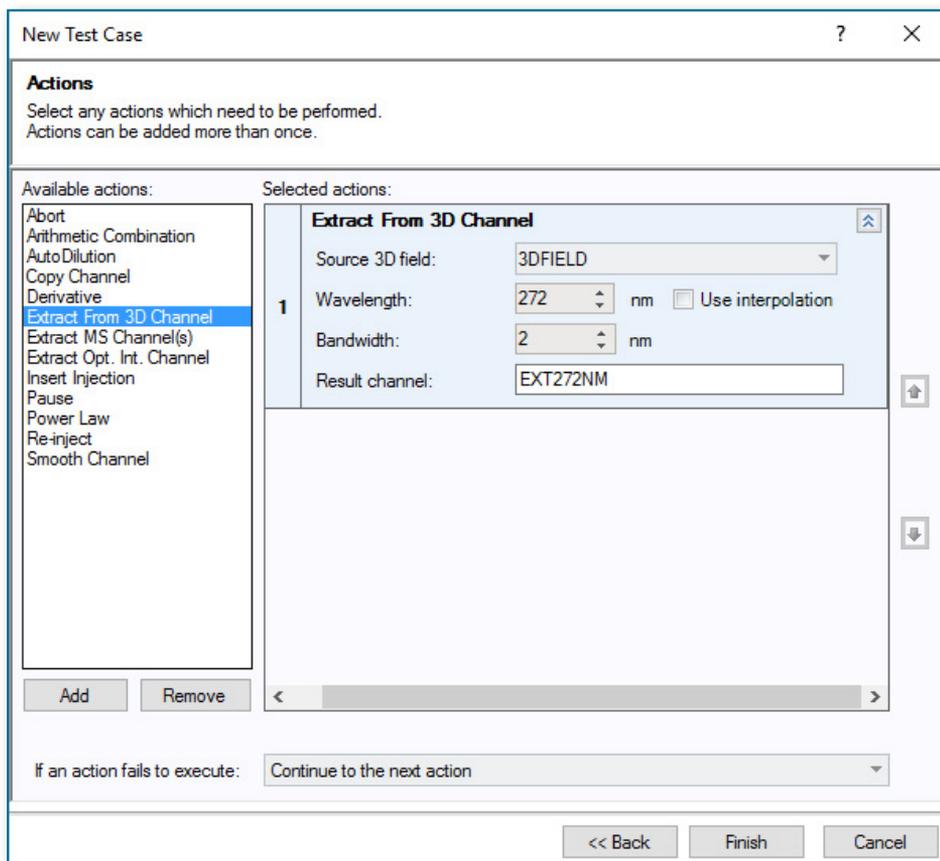
The 'New Test Case' dialog, Fail Actions tab, allows defining actions for failed test runs. It features:

- Available actions:** A list of actions including 'Re-inject', which is highlighted.
- Selected fail actions:** A list of one action:
 - Re-inject:** Radio buttons for 'Current injection' (selected) and 'Completed injections'. A dropdown menu is set to 'Unknown' and another to 'block'. 'Max. no. of re-injections:' is set to '1'.
- If an action fails to execute:** A dropdown menu set to 'Abort the queue'.
- Buttons for '<< Back', 'Finish', and 'Cancel' at the bottom.

Dialog to define Fail Actions.

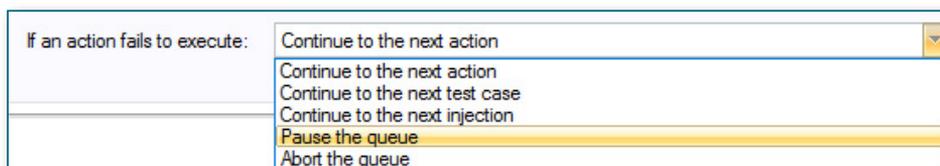


Unconditional cases can be similarly defined without any prior conditional requirements (a pass result is assumed) allowing automatic actions to occur at the end of selected Injections, such as automatically extract a specific wavelength from the UV 3D field or pause the Queue.



Unconditional actions can also be set. Built-in error handling ensures continued operation.

Built-in error handling ensures continued operation for both conditional and unconditional test cases should one of the actions fail to execute. The options are to continue to the next action for this test case, the next test case for this injection, the next injection, or pause or abort the running queue.



Built-in error handling continuously ensures correct operation.

Find out more at thermofisher.com/chromeleon

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