

Delta Tips

NMDT_0060

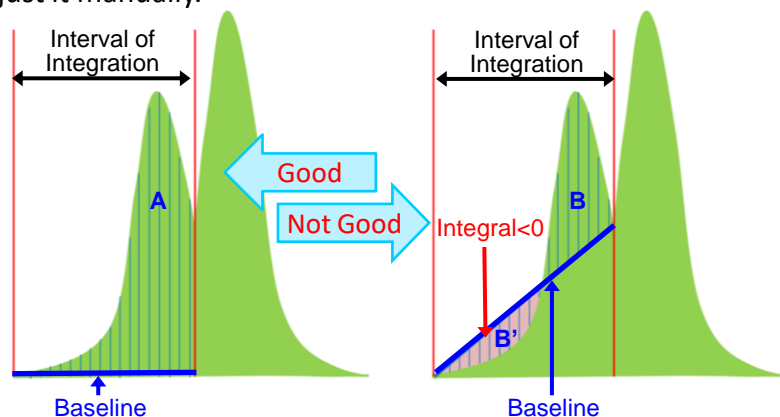
Interval and Baseline of Integration

NMR data processing software

Delta
NMR Software
v5.0



In Delta software, the baseline of integration is set automatically. However, you might be required to readjust it manually.

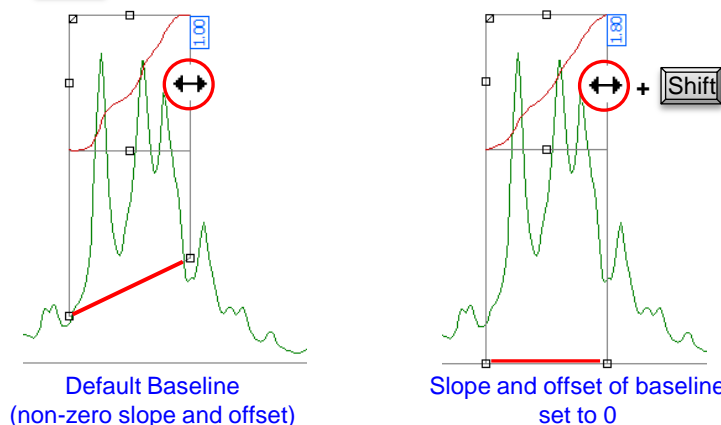


The integral area is between the peak curve and the baseline in the selected integration interval. For accurate integration, it is necessary to select the entire area of a peak as shown in the figure on the left (area **A**). The figure on the right shows a wrong way of performing integration. Note that a small portion of the peak has been integrated. In addition to that, if the peak curve is below the baseline as indicated by the area **B'**, the integral value for this area becomes negative. As a result, the integral value is wrong.

★ Baseline of Integration

Baseline is automatically estimated from the average intensity of 11 data points around the start and end of the selected integration interval as default.

If you need to set the baseline of slope = 0 and offset = 0 manually as shown on the right, push and hold the **[Shift]** key and reset the integration interval.



★ It is possible to change the default setting of the baseline detection in the **Preferences** window as follows:

Select **Options — Preferences** in the **Delta Console** window to open the **Preferences** window.

The number of the average data points: **Geometry — Integral Averaging Points** (default = 11)

The Slope/Offset adjustment ON/OFF: **Geometry — Adjust Integral Slope/Offset** (default = ON) **1/3**

It is possible to adjust the integration interval and baseline manually.

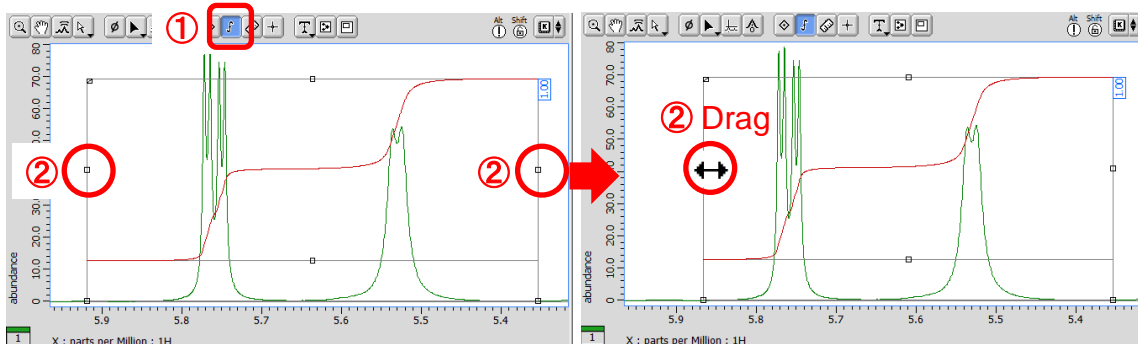
Integration Interval Adjustment:

① Click the **Integral** button  in the data window.

Note that the cursor has changed into the **Integral** symbol .

② Drag the **Grab**  ② to adjust the integration interval.

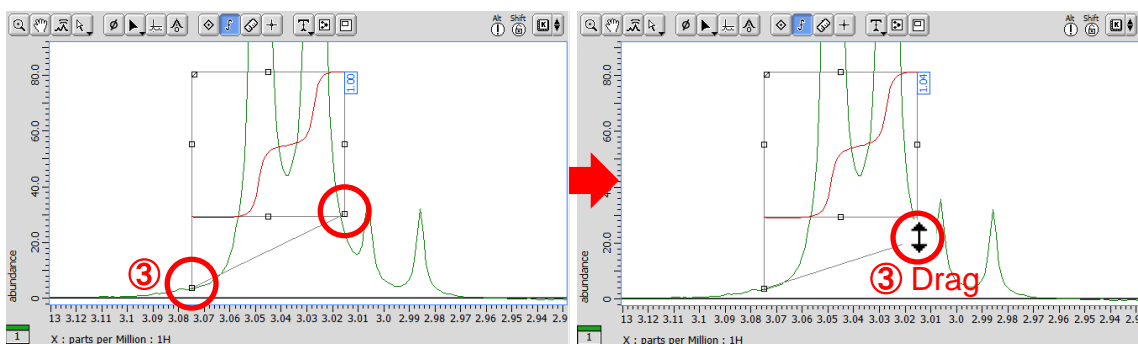
The cursor has changed into  on the **Grab** . Drop it where needed.



Integration Baseline Adjustment:

③ Drag the **Grab**  ③ to adjust the baseline.

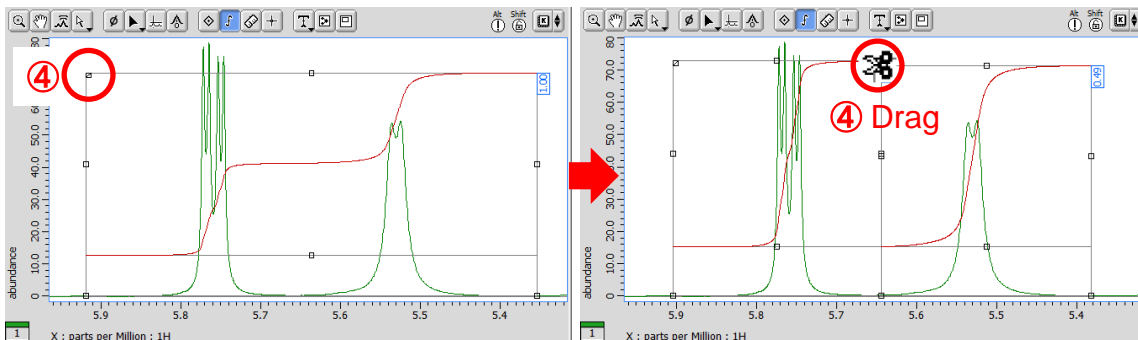
The cursor has changed into  on the **Grab** . Drop it where needed.



How to Divide Integral into two integrals:

④ Drag the **Grab**  ④ to divide an integral into two integrals.

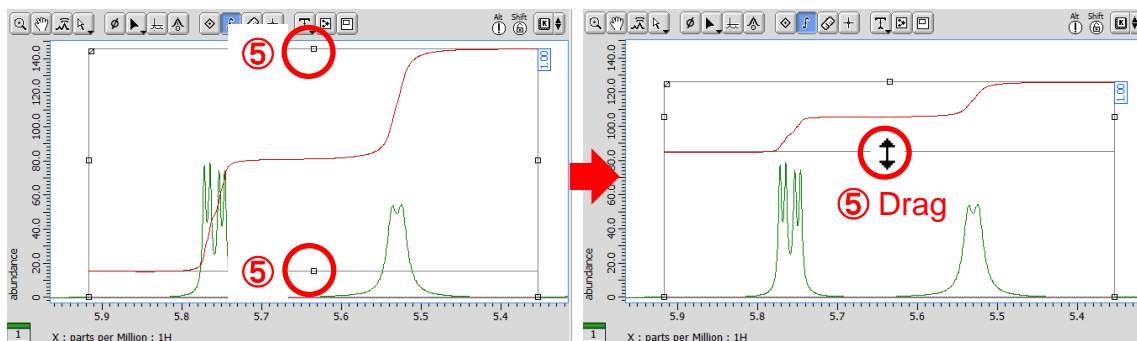
The cursor has changed into  on the **Grab** . Drop it where needed.



Adjustment of Height and Position of Integral Curve:

⑤ Drag the **Grab**  ⑤ to adjust the size and position of integral curve.


The cursor has changed into  on the **Grab**  . Drop it where needed.



★ Details for all integrals can be summarized in the **Spread Sheet** window as follows:

Select **Analyze — Peak Spreadsheet** to open the **Spread Sheet** window.

For the details of the **Spread Sheet** window, refer to Delta Tips **Spread Sheet (Part 1)** and **Deconvolution Function** (⇒NMDT_0008 and 0059).

★ It is possible to display or hide the integral curve and value except of the  selected mode.

Push the keys  + , or select the context menu **Options — Integrals — Integrals**.

Push and hold the right mouse button to display the context menu.