

# MS/MS spectral normalization function

Normalize with another data file

Function for cases when the measurement data of target molecules and internal standards are in separate files.

# What is the “MS/MS spectrum normalization” function?

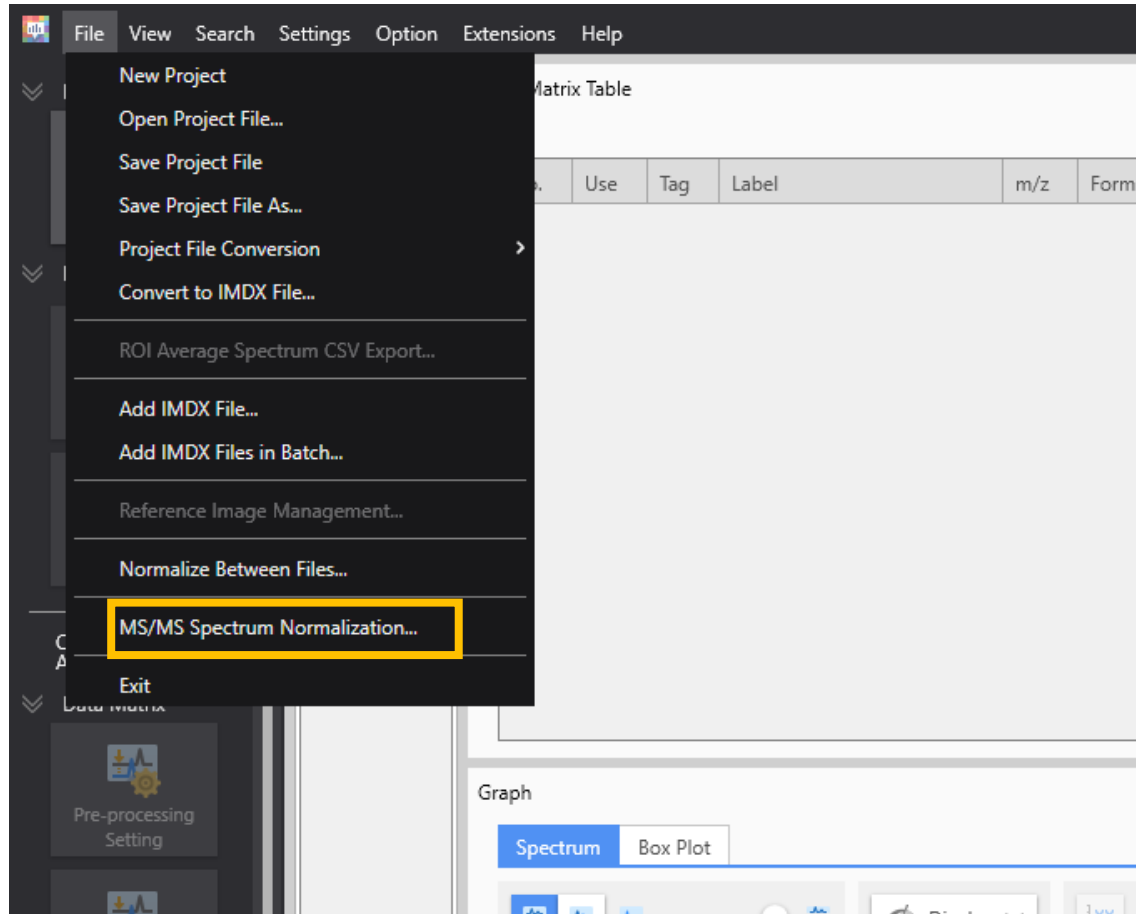
- Use the data file for the normalization process.
  - Normalize [Target Data] with the peak value of [Reference Data].
    - The image shape of [Target Data] and [Reference Data] must be the same.
- For example, the following situation is assumed.
  - [Target data] : MS image obtained by MS1 analysis
  - [Reference data] : MS image obtained by MS/MS analysis of the same section sample

※The reference data is NOT limited to “MS/MS analysis”.

# Preperation

- Preparation of data files (imdx)
  - [Target data] : Data to be normalized
  - [Reference data]: Data containing information about the reference peak.
  
- ※ The shape of the images MUST be the same.

Select “MS/MS Spectrum Normalization” from “File” menu.



# MS/MS spectrum normalization settings

MS/MS Spectrum Normalization

① File Settings

Target File  
Liver\_Quant\_Right1-2\_Right1\_1.25x+Matrix\_BW\_AREA01.imdx

Measurement Date: 2018/04/07 2:08:42  
Data Point: 25265(155, 163)  
Pitch: 10.0, 10.0 [um]  
m/z Range: m/z 608.98645 - 660.00300

② Reference File  
Liver\_Quant\_Right1-2\_Right1\_1.25x+Matrix\_BW\_AREA02.imdx

Measurement Date: 2018/04/07 3:03:38  
Data Point: 25265(155, 163)  
Pitch: 10.0, 10.0 [um]  
m/z Range: m/z 608.98645 - 660.00300

③ Output File  
C:\temp\test01.imdx

Parameter Settings

④

No.	Use	m/z	Tolerance
1	<input checked="" type="checkbox"/>	1000.00000	1.0000

Reference Value Setting

Minimum Threshold Value (%)

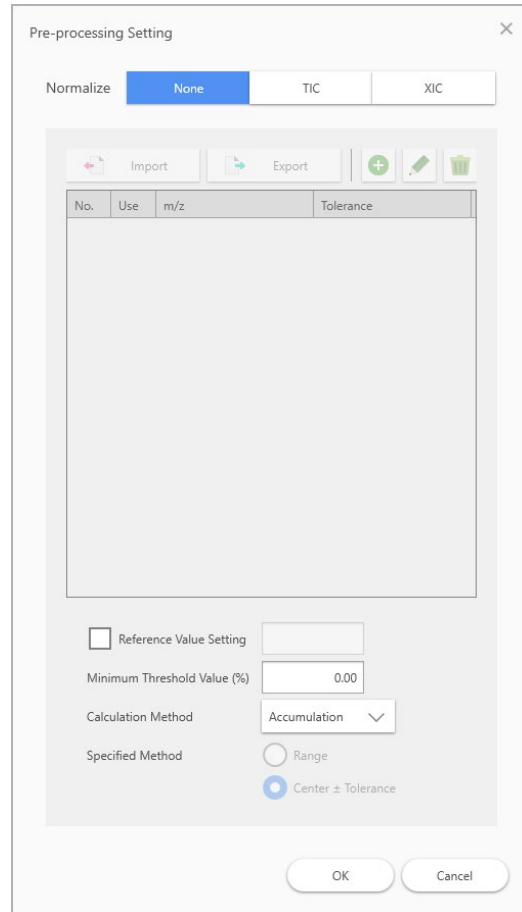
Calculation Method

Specified Method  Range  Center ± Tolerance

Execute Close

- ① [Target file]: Select the IMDX file to be normalized.
- ② [Reference File]: Select the IMDX file to be referenced.
- ③ [Output File]: Set the file path and name of the normalized IMDX file.
- ④ Set the m/z and tolerance for the normalization ( $m/z \pm \text{tolerance}$ ).

The imdx file created by MS/MS spectrum normalization should be processed by “None”.



Since it has already been normalized, use the value as it is and process it.

# Notes

- [Reference value]: The intensity value of the maximum peak after normalization.
  - If there is no input for [Reference value]:
    - The intensity of the maximum peak in the normalized result will be 1,000,000.
    - The value is editable.
- [Minimum Threshold Value]: Threshold value of peak intensity to be normalized.
  - If the m/z intensity value for normalization is less than the set ratio to the "maximum intensity value of all measurement points", the "average intensity value of all measurement points" will be used for normalization.
  - function to avoid normalizing with extremely small intensity values