

<No Sample Name> (S1\_HMR\_01) \* - Measurement Open Images Program

File Edit Spectrum Mass Interval List Peak List View Help

Total Range Total Area All Intervals Find: C3H3

m/z Dev. (ppm) Area (cts) Counts / Shot Explained (%) Resolution Width (ns)

Compilations

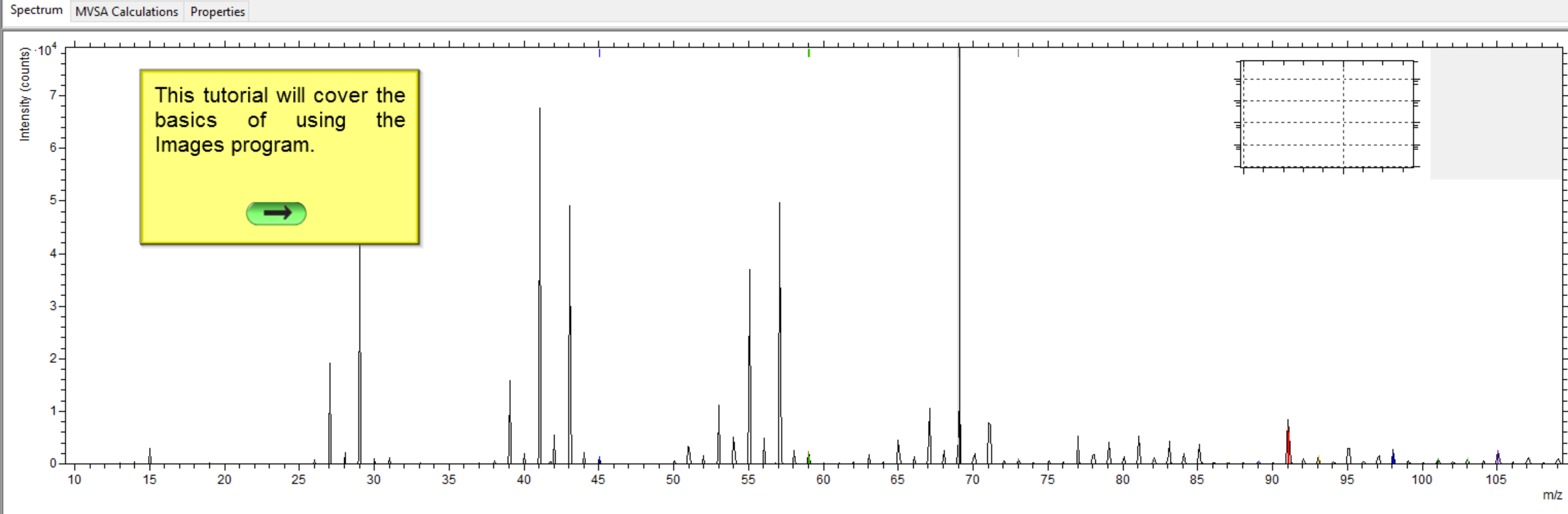
Spectra

S1\_HMR\_01\_0  
<No Sample Name> (S1\_HMR\_01)

S1\_HMR\_02\_0  
<No Sample Name> (S1\_HMR\_02)

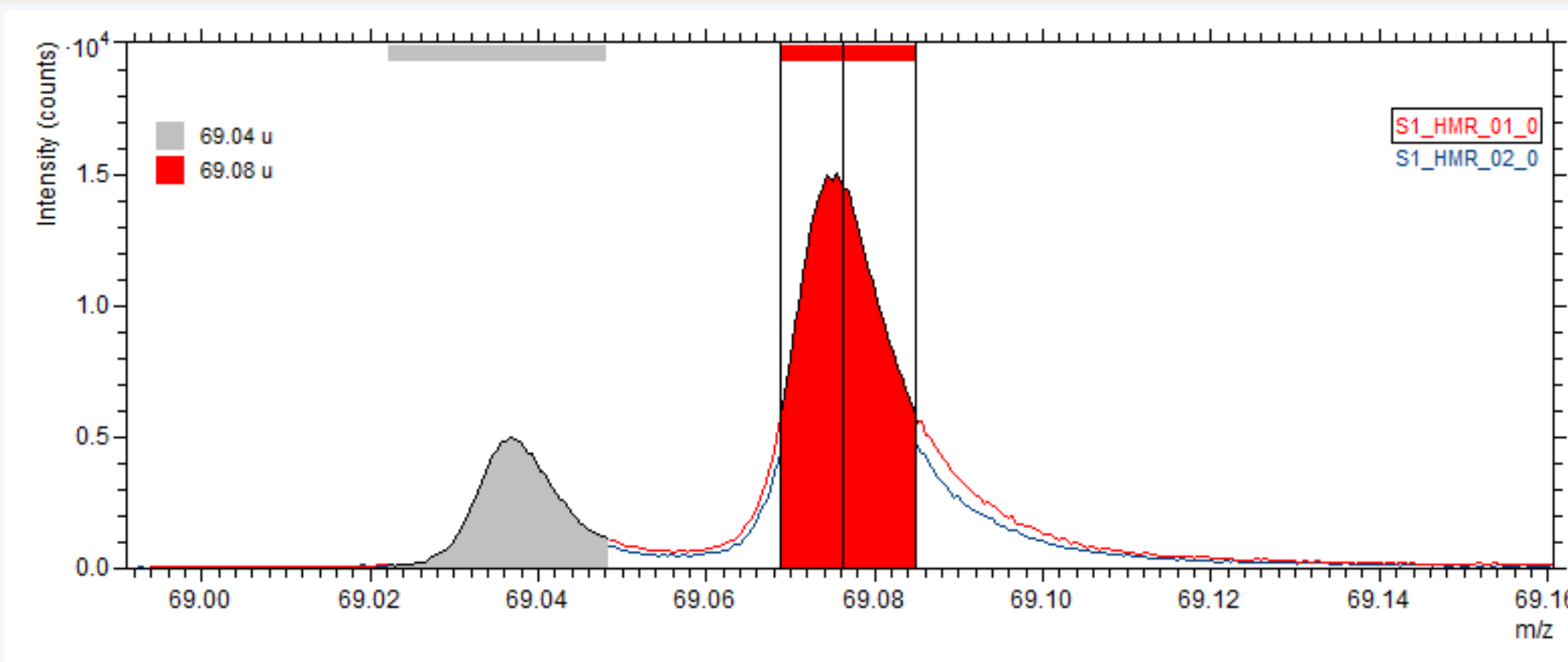
Mass Interval Lists

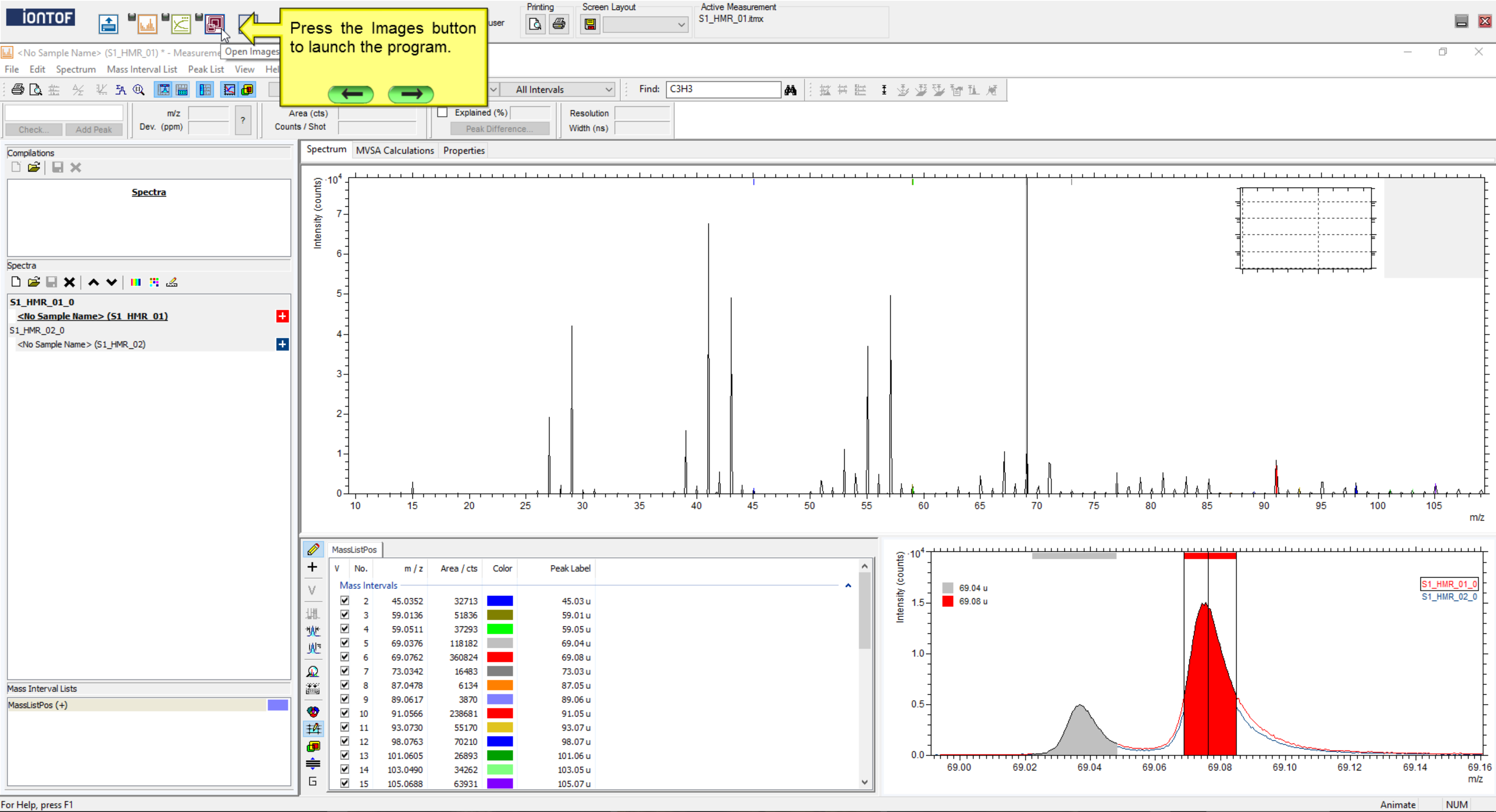
MassListPos (+)



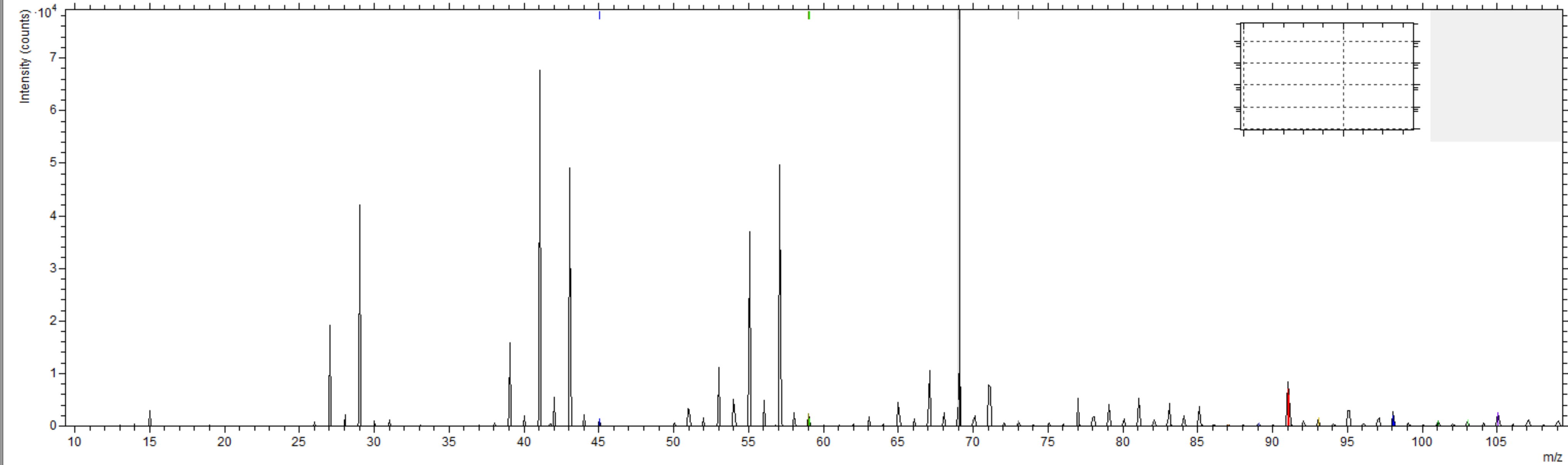
MassListPos

V	No.	m/z	Area / cts	Color	Peak Label
Mass Intervals					
<input checked="" type="checkbox"/>	2	45.0352	32713	Blue	45.03 u
<input checked="" type="checkbox"/>	3	59.0136	51836	Olive	59.01 u
<input checked="" type="checkbox"/>	4	59.0511	37293	Green	59.05 u
<input checked="" type="checkbox"/>	5	69.0376	118182	Grey	69.04 u
<input checked="" type="checkbox"/>	6	69.0762	360824	Red	69.08 u
<input checked="" type="checkbox"/>	7	73.0342	16483	Dark Grey	73.03 u
<input checked="" type="checkbox"/>	8	87.0478	6134	Orange	87.05 u
<input checked="" type="checkbox"/>	9	89.0617	3870	Light Blue	89.06 u
<input checked="" type="checkbox"/>	10	91.0566	238681	Red	91.05 u
<input checked="" type="checkbox"/>	11	93.0730	55170	Yellow	93.07 u
<input checked="" type="checkbox"/>	12	98.0763	70210	Blue	98.07 u
<input checked="" type="checkbox"/>	13	101.0605	26893	Green	101.06 u
<input checked="" type="checkbox"/>	14	103.0490	34262	Light Green	103.05 u
<input checked="" type="checkbox"/>	15	105.0688	63931	Purple	105.07 u

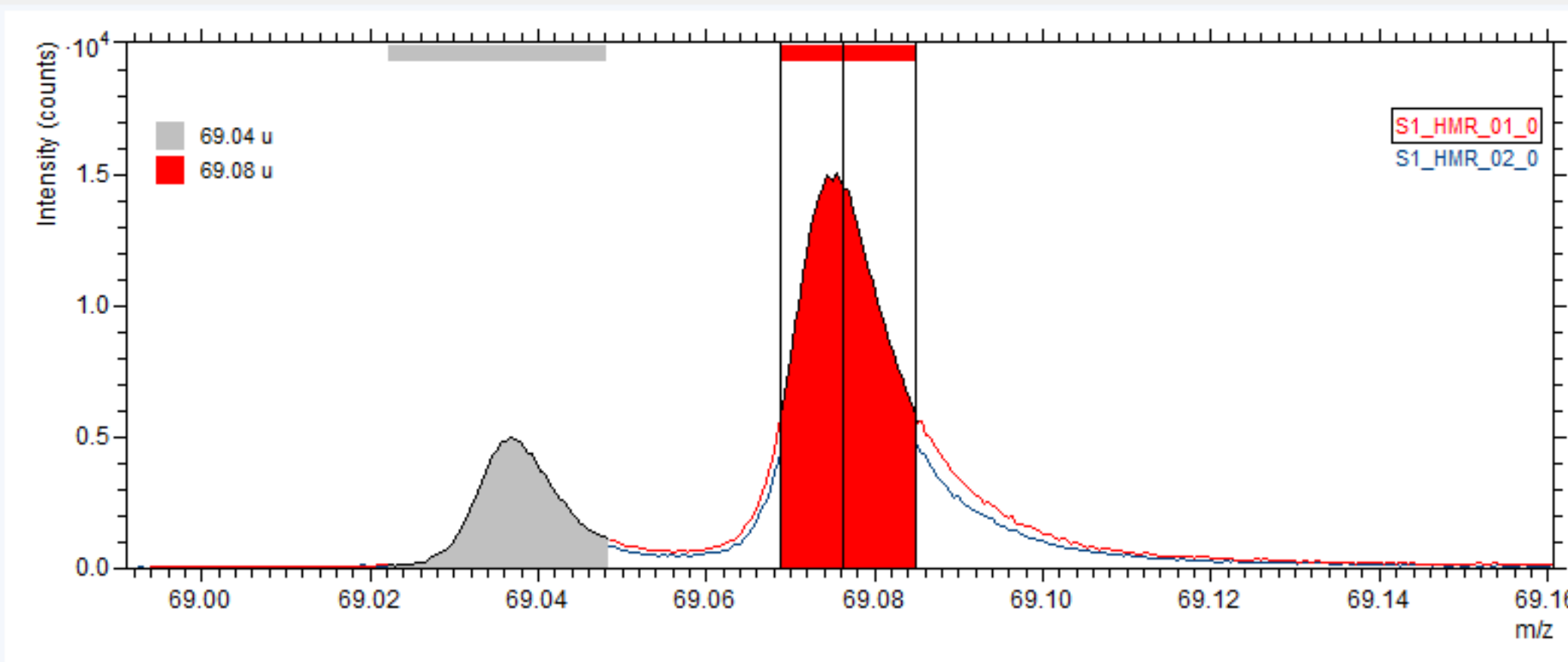




Press the Images button to launch the program.



V	No.	m / z	Area / cts	Color	Peak Label
<b>Mass Intervals</b>					
<input checked="" type="checkbox"/>	2	45.0352	32713	Blue	45.03 u
<input checked="" type="checkbox"/>	3	59.0136	51836	Olive	59.01 u
<input checked="" type="checkbox"/>	4	59.0511	37293	Green	59.05 u
<input checked="" type="checkbox"/>	5	69.0376	118182	Grey	69.04 u
<input checked="" type="checkbox"/>	6	69.0762	360824	Red	69.08 u
<input checked="" type="checkbox"/>	7	73.0342	16483	Dark Grey	73.03 u
<input checked="" type="checkbox"/>	8	87.0478	6134	Orange	87.05 u
<input checked="" type="checkbox"/>	9	89.0617	3870	Light Blue	89.06 u
<input checked="" type="checkbox"/>	10	91.0566	238681	Red	91.05 u
<input checked="" type="checkbox"/>	11	93.0730	55170	Yellow	93.07 u
<input checked="" type="checkbox"/>	12	98.0763	70210	Blue	98.07 u
<input checked="" type="checkbox"/>	13	101.0605	26893	Green	101.06 u
<input checked="" type="checkbox"/>	14	103.0490	34262	Light Green	103.05 u
<input checked="" type="checkbox"/>	15	105.0688	63931	Purple	105.07 u



You can increase or decrease the size of the cells in the spreadsheet view here.

The cell column labels are on top here. Columns are labeled with letters.

This central area works like a spreadsheet. Each cell can hold an image or a image processed with one of the built in functions of the Images program. You can copy and paste between cells and data sets.

The cell row labels are here on the left. Rows are labeled with numbers.

ab [icons]  Show Differential Sort Mass  Use shift correction Binning: 16 pixels  Use poisson correction z-ROI Total Range lat-ROI Total Range Zoom: [slider]

Image Stockpile Attachments New subset [grid of 12 images with labels: 45.03 u, 59.01 u, 59.05 u, 69.04 u, 69.08 u, 73.03 u, 87.05 u, 89.06 u]

A required image stockpile reference is not set.

Overlay of , ,

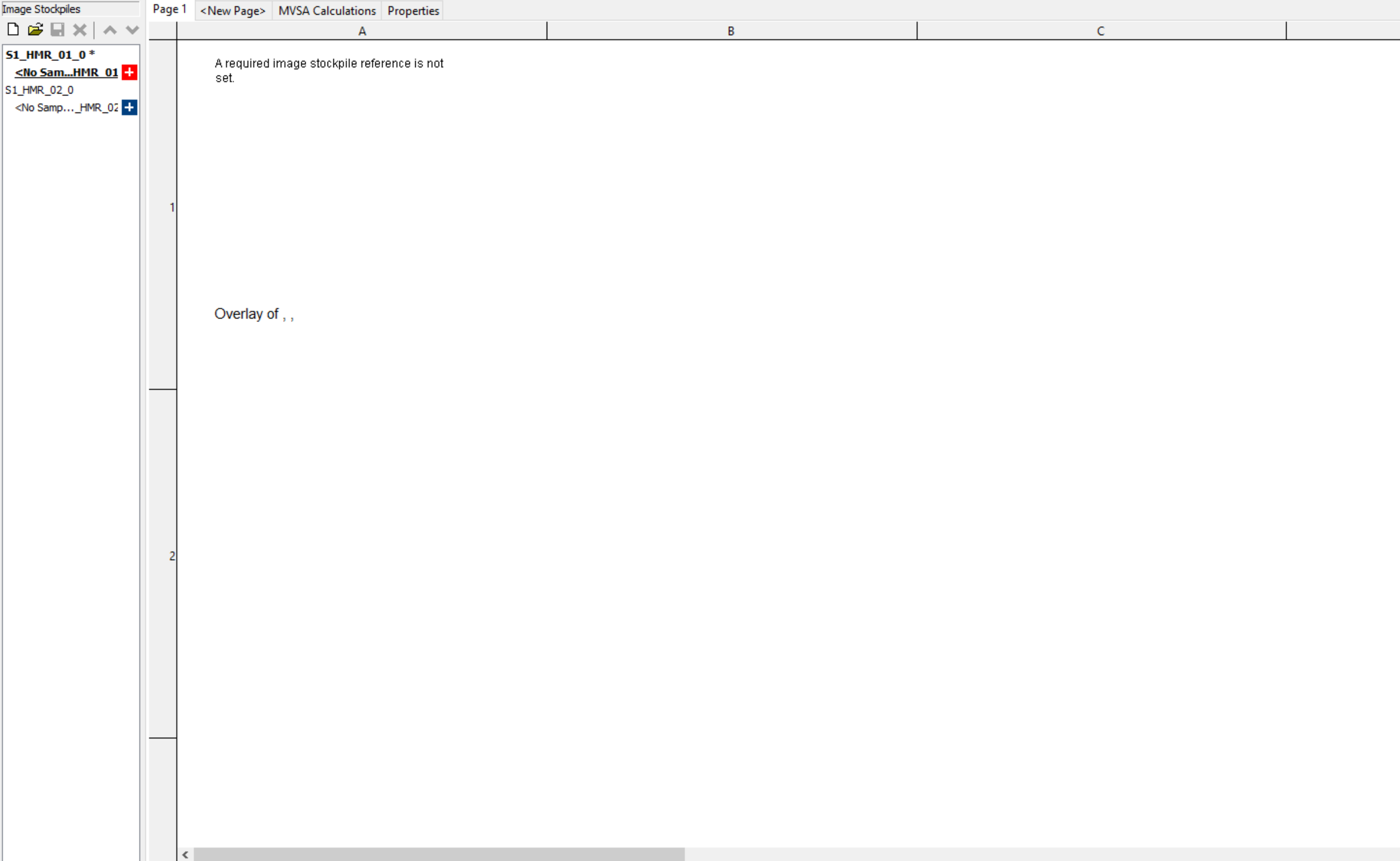
	A	B	C	D
1				
2				

Sort: Mass  
Binning: 16 pixels  
z-ROI: Total Range  
lat-ROI: Total Range  
Zoom: [slider]

Image Stockpile Attachments New subset

59.05 u 69.04 u  
69.08 u 73.03 u  
87.05 u 89.06 u

You can look through the images using the scroll control here.

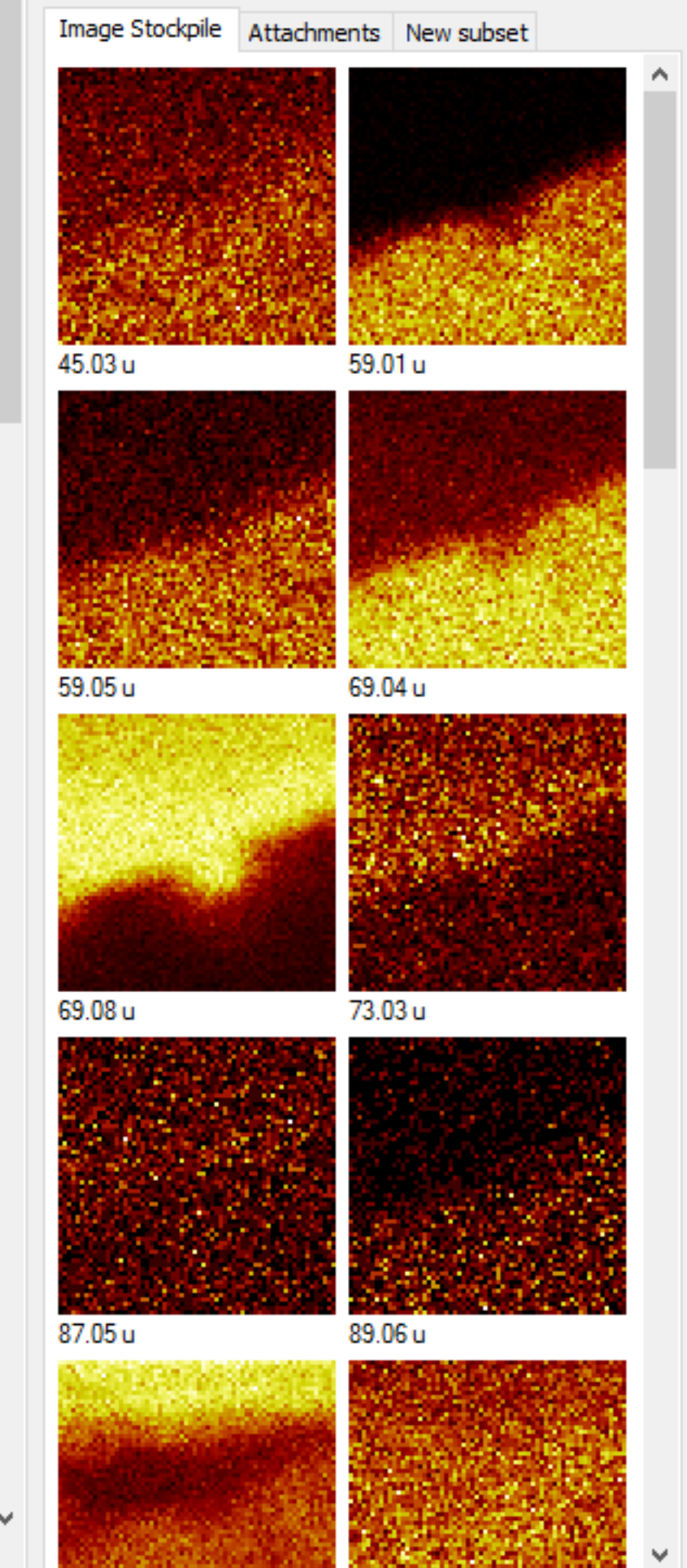


You can change how the images are sorted with this menu.

Sort

- Mass
- Index
- Mass
- Max Counts in Pixel
- Total Counts in Image
- Contrast
- Peak Label
- Description
- Assignment

Zoom: [slider]



A required image stockpile reference is not set.

Overlay of , ,

Sort Contrast [dropdown]  
Binning: 1 pixel [dropdown]  
z-ROI Total Range [dropdown]  
lat-ROI Total Range [dropdown]

Zoom: [slider]

Image Stockpile	Attachments	New subset

Here the images are sorted by contrast.

The images will be shown from lowest to highest contrast from top to bottom.

A required image stockpile reference is not set.

Overlay of , ,

Sort: Contrast (dropdown menu open)

- Index
- Mass
- Max Counts in Pixel
- Total Counts in Image
- Contrast
- Peak Label
- Description
- Assignment

Zoom: [slider]

Image Stockpile	Attachments	New subset
93.07 u	171.07 u	
331.18 u	87.05 u	
287.13 u	89.06 u	
202.06 u	73.03 u	

Let's change it to sort by mass.

A required image stockpile reference is not set.

Overlay of , ,

1

2

A

B

C

D

ab

- Peak Label
- Assignment
- Mass
- Description

Zoom: [Slider]

Image Stockpile Attachments New subset

45.03 u	59.01 u
59.05 u	69.04 u
69.08 u	73.03 u
87.05 u	89.06 u

The images will be shown from lowest to highest mass from top to bottom.

Image Stockpiles

- S1\_HMR\_01\_0\*
- <No Sam...HMR\_01 +
- S1\_HMR\_02\_0
- <No Samp...\_HMR\_02 +

Grid with columns A, B, C and rows 1, 2.

Row 1: A required image stockpile reference is not set.

Row 2: Overlay of , ,

You can change how the images are labeled here. Let's change the label to Description.

ab [v]

- Peak Label
- Assignment
- Mass
- Description

Zoom: [slider]

Image Stockpile Attachments New subset

45.03 u	59.01 u
59.05 u	69.04 u
69.08 u	73.03 u
87.05 u	89.06 u

A required image stockpile reference is not set.

Overlay of , ,

Sort: Mass | Binning: 1 pixel | z-ROI: Total Range | lat-ROI: Total Range | Zoom: [slider]

Image Stockpile | Attachments | New subset

PEG	PMMA
PEG 45.03 u 3.205600e+004 counts	PMMA
PEG	PMMA
PEG	PEG
PEG	PEG

Now the images will be labeled with whatever is in the description field of the peak list.



A required image stockpile reference is not set.

Overlay of , ,

ab

- Peak Label
- Assignment
- Mass
- ✓ Description

Zoom: lat-ROI Total Range

Image Stockpile Attachments New subset

PEG	PMMA
PEG	PMMA
PEG	
PEG	PEG
PEG	PEG

Let's change the label to Mass.

← →

A required image stockpile reference is not set.

Overlay of , ,

Show Differential  
 Use shift correction  
 Use poisson correction

Sort: Mass

Binning: 1 pixel

z-ROI: Total Range

lat-ROI: Total Range

Zoom: [slider]

Image Stockpile Attachments New subset

45.03 u	59.01 u
59.05 u	69.04 u
69.08 u	73.03 u
87.05 u	89.06 u

PEG  
45.03 u  
3.205600e+004 counts

The labels now show the centroid mass of the selected peak.

← →

	A	B	C	D
1	A required image stockpile reference is not set.			
2	Overlay of , ,			

Sort: Mass  
Binning: 1 pixel  
z-ROI: Total Range  
lat-ROI: Total Range  
Zoom: [slider]

Image Stockpile Attachments New subset

45.03 u	59.01 u
59.05 u	69.04 u
69.08 u	73.03 u
87.05 u	89.06 u

69.08 u  
2.667820e+005 counts

You can take any image from this list and place it in the spreadsheet view of the Images program.

To do this, left mouse click and...

← →

	A	B	C	D
1	A required image stockpile reference is not set.			
2	Overlay of , ,			

drag the image into the desired cell of the spreadsheet view and...

ab [dropdown] [dropdown] [dropdown] [dropdown]

Show Differential    Sort: Mass [dropdown]

Use shift correction    Binning: 1 pixel [dropdown]

Use poisson correction    z-ROI: Total Range [dropdown]

lat-ROI: Total Range [dropdown]

Zoom: [slider]

Image Stockpile | Attachments | New subset

45.03 u	59.01 u
59.05 u	69.04 u
69.08 u	73.03 u
87.05 u	89.06 u
87.05 u	89.06 u

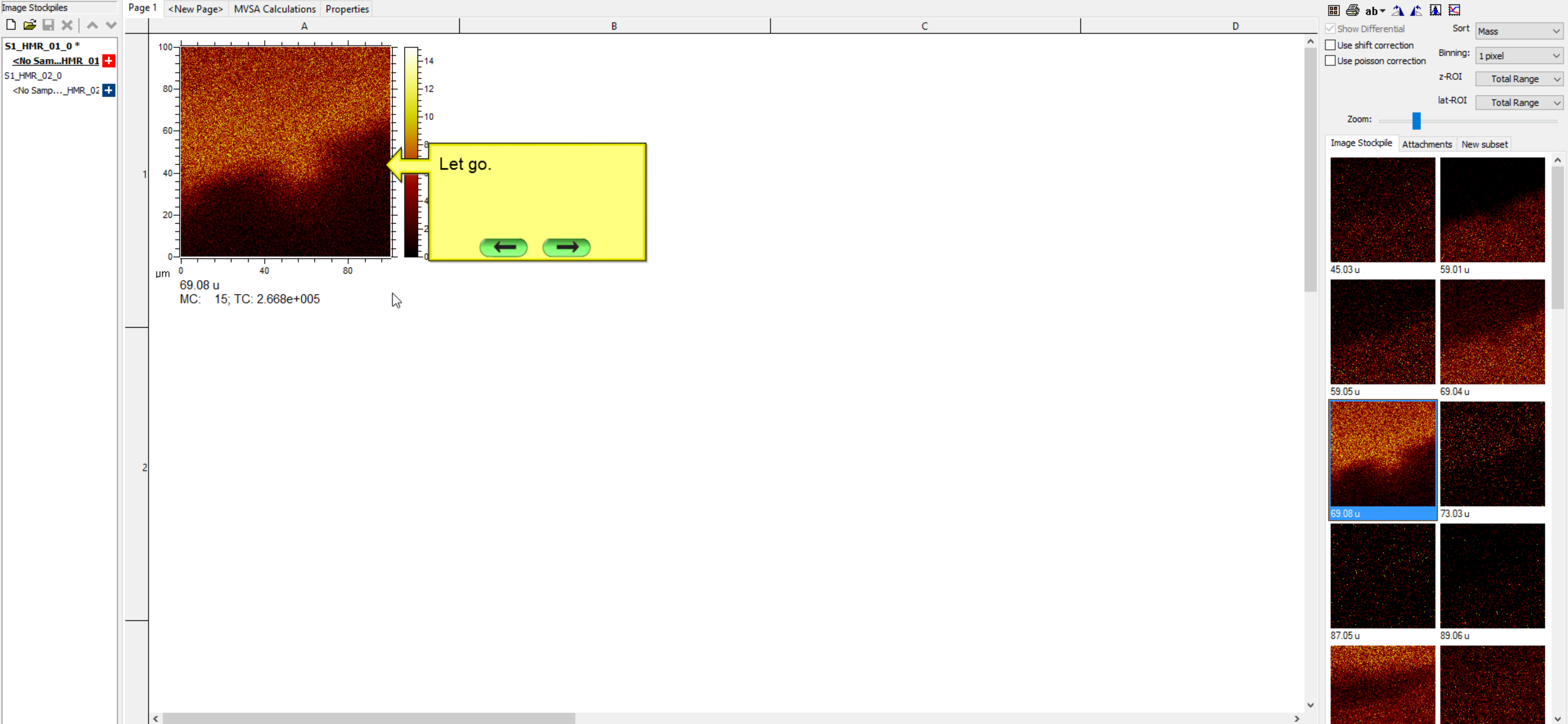
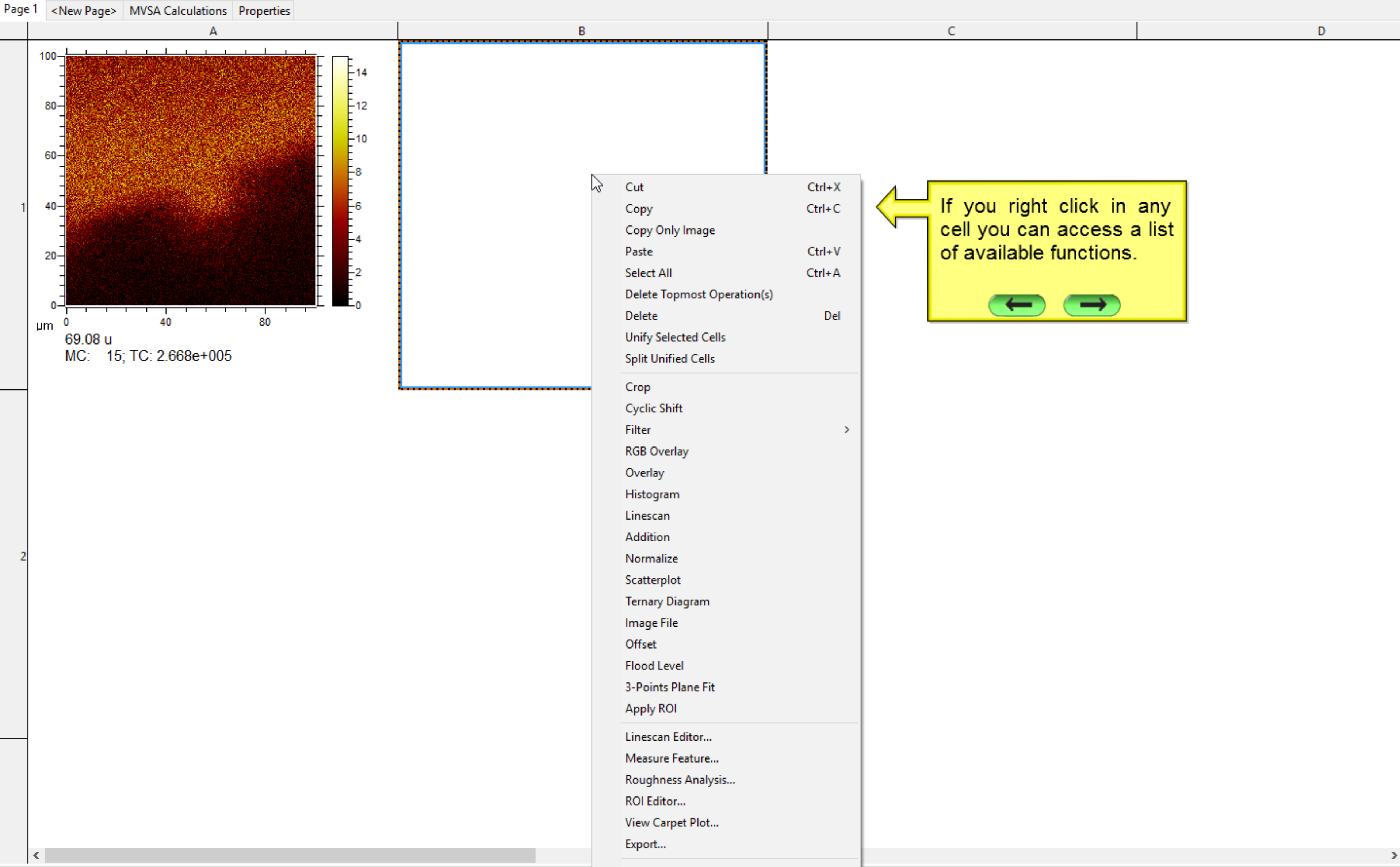


Image Stockpiles

- S1\_HMR\_01\_0\*
- <No Sam...HMR\_01 +
- S1\_HMR\_02\_0
- <No Samp...\_HMR\_02 +



If you right click in any cell you can access a list of available functions.

← →

ab [dropdown]

Show Differential  
 Use shift correction  
 Use poisson correction

Sort: Mass [dropdown]

Binning: 1 pixel [dropdown]

z-ROI: Total Range [dropdown]

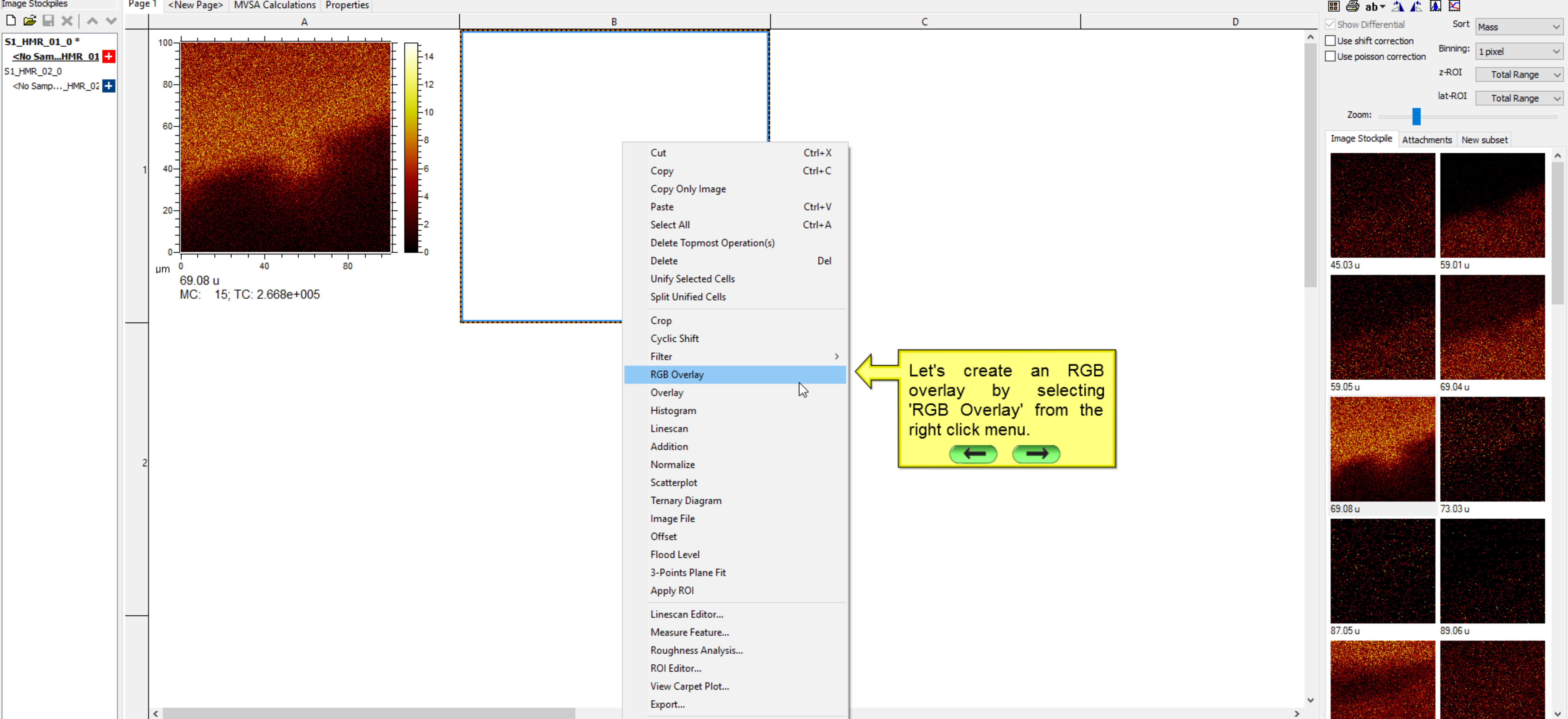
lat-ROI: Total Range [dropdown]

Zoom: [slider]

Image Stockpile Attachments New subset

45.03 u	59.01 u
59.05 u	69.04 u
69.08 u	73.03 u
87.05 u	89.06 u

Acquisition stopped Columns:10, Rows:6 NUM



ab

Show Differential Sort: Mass

Use shift correction Binning: 1 pixel

Use poisson correction z-ROI: Total Range

lat-ROI: Total Range

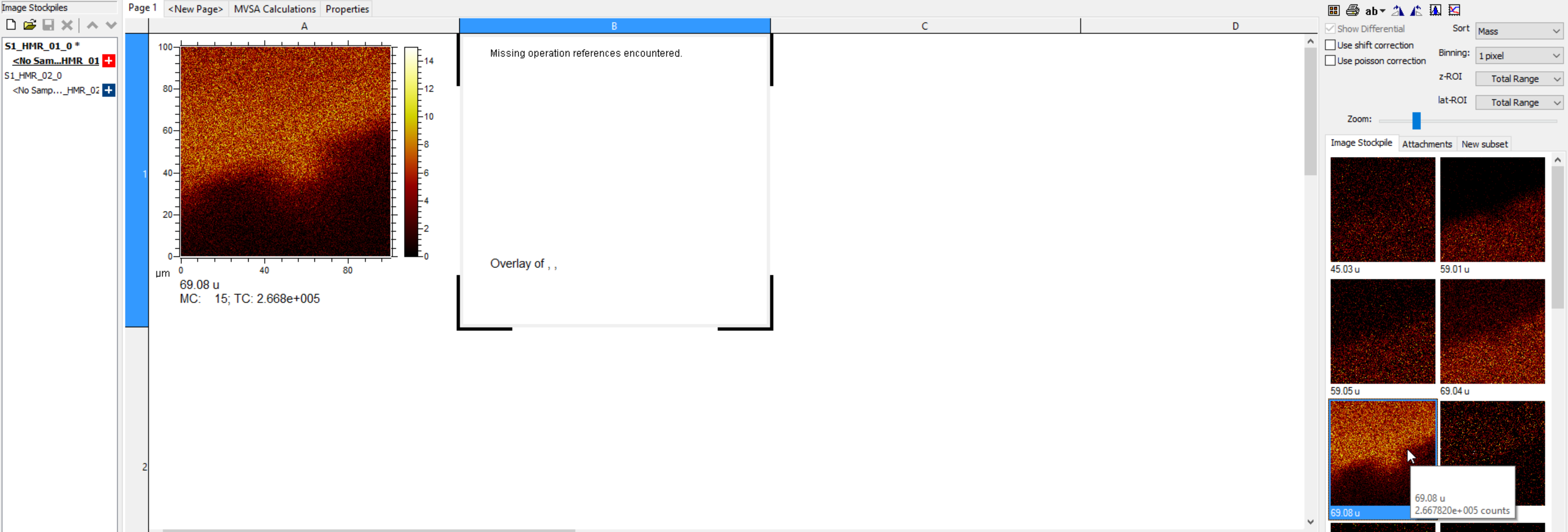
Zoom: [Slider]

Image Stockpile Attachments New subset

45.03 u	59.01 u
59.05 u	69.04 u
69.08 u	73.03 u
87.05 u	89.06 u

Let's create an RGB overlay by selecting 'RGB Overlay' from the right click menu.

← →



Show Differential  
 Use shift correction  
 Use poisson correction

Sort: Mass

Binning: 1 pixel

z-ROI: Total Range

lat-ROI: Total Range

Zoom: [slider]

Image Stockpile Attachments New subset

45.03 u	59.01 u
59.05 u	69.04 u
69.08 u	69.08 u 2.667820e+005 counts
87.05 u	89.06 u

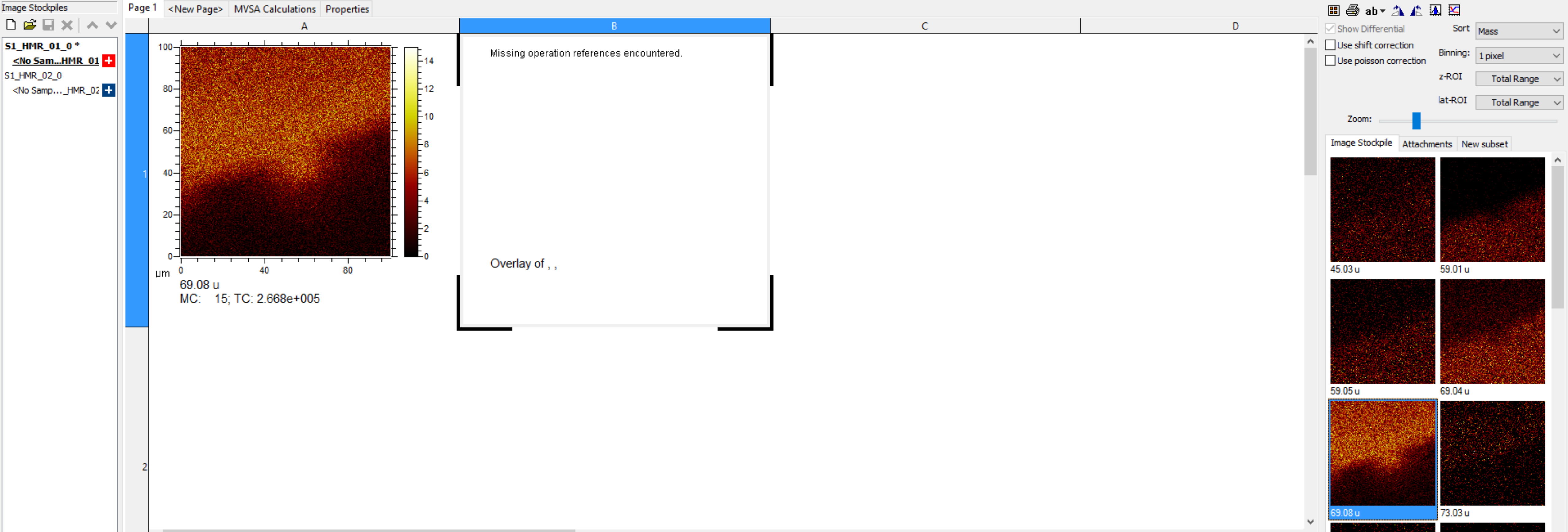
Source Images

- \$(Page 1)\$BS1
  - RGB Overlay
  - Unused
  - Unused
  - Unused

Overlay

The color channels are shown here.

← →



Show Differential  
 Use shift correction  
 Use poisson correction

Sort: Mass

Binning: 1 pixel

z-ROI: Total Range

lat-ROI: Total Range

Zoom: [Slider]

Image Stockpile Attachments New subset

45.03 u	59.01 u
59.05 u	69.04 u
69.08 u	73.03 u
87.05 u	89.06 u

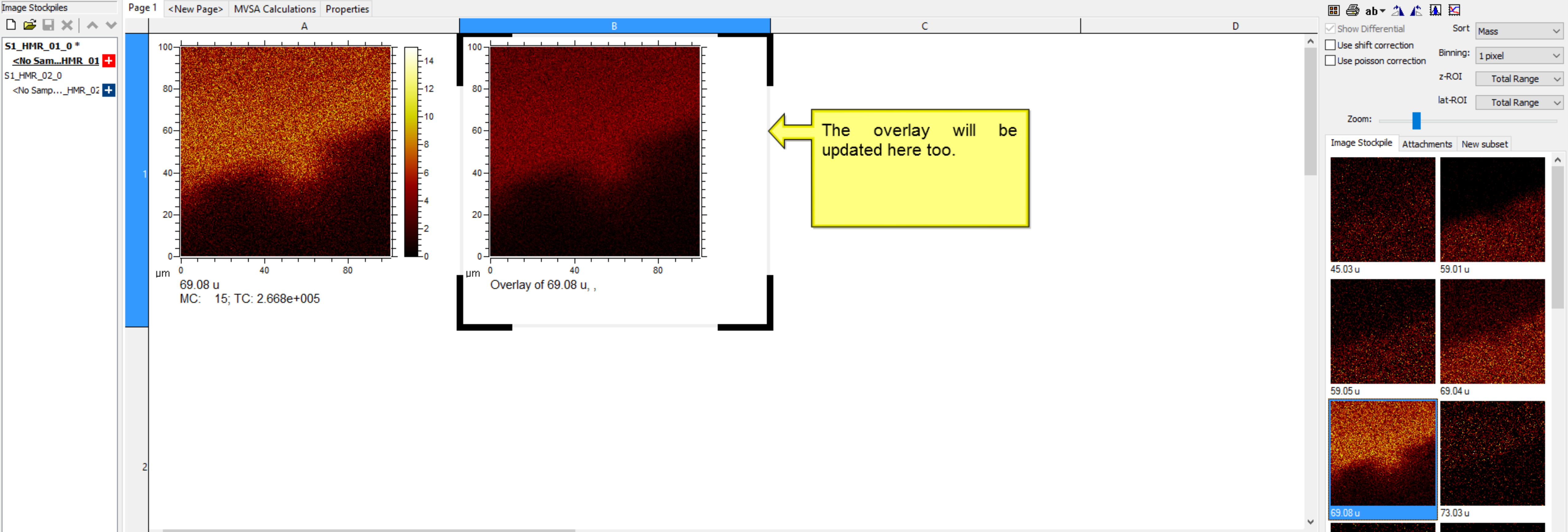
Source Images Overlay result

\$(Page 1)\$BS1

- RGB Overlay
- Unused
- Unused
- Unused

You can drag and drop any image from the list on the right or the spreadsheet into each color channel. Here we drag m/z 69.08 into the red channel.

← →



ab [dropdown] [dropdown] [dropdown] [dropdown] [dropdown] [dropdown]

Show Differential Sort: Mass [dropdown]  
 Use shift correction Binning: 1 pixel [dropdown]  
 Use poisson correction z-ROI: Total Range [dropdown]  
lat-ROI: Total Range [dropdown]

Zoom: [slider]

Image Stockpile Attachments New subset

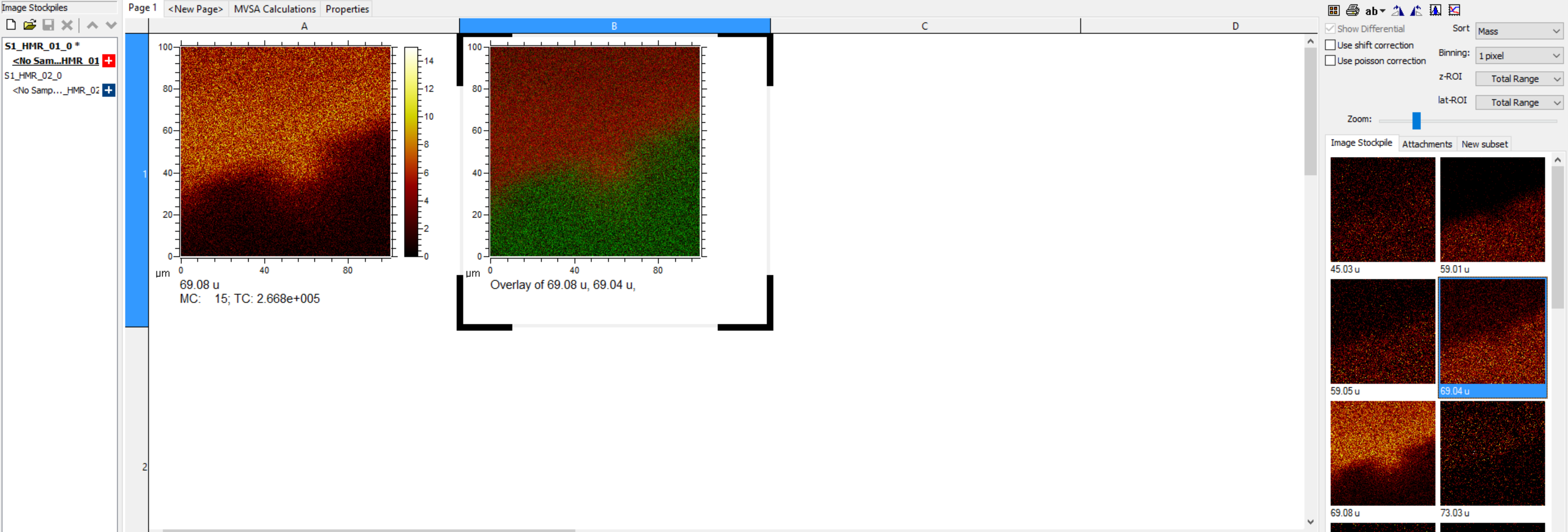
45.03 u	59.01 u
59.05 u	69.04 u
69.08 u	73.03 u
87.05 u	89.06 u

Source Images Overlay result

--	--	--	--

The image is shown in the channel it was placed and in the 'Overlay result' view.

[left arrow] [right arrow]



Show Differential  
 Use shift correction  
 Use poisson correction

Sort: Mass

Binning: 1 pixel

z-ROI: Total Range

lat-ROI: Total Range

Zoom: [slider]

Image Stockpile Attachments New subset

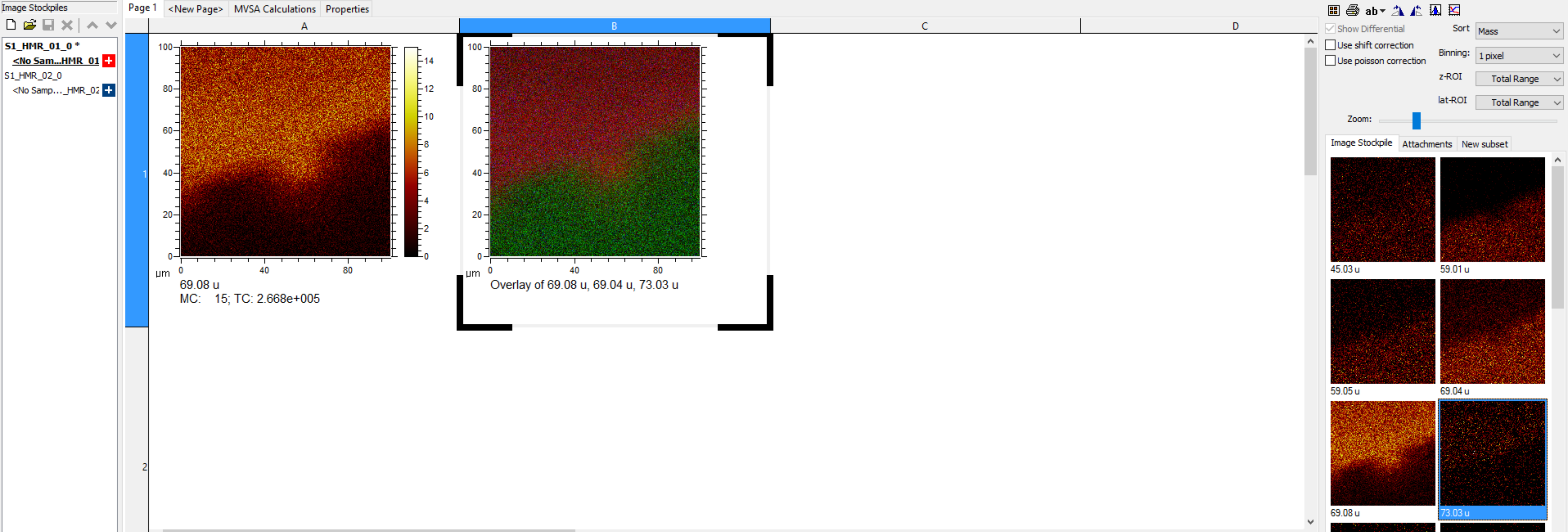
45.03 u	59.01 u
59.05 u	69.04 u
69.08 u	73.03 u
87.05 u	89.06 u

Source Images Overlay result

- RGB Overlay
  - Overlay (Red Channel)
    - Image (69.08 u)
  - Overlay (Green Channel)
    - Image (69.04 u)
  - Unused

We have added m/z 69.04 into the green channel.

← →



Show Differential  
 Use shift correction  
 Use poisson correction

Sort: Mass

Binning: 1 pixel

z-ROI: Total Range

lat-ROI: Total Range

Zoom: [Slider]

Image Stockpile Attachments New subset

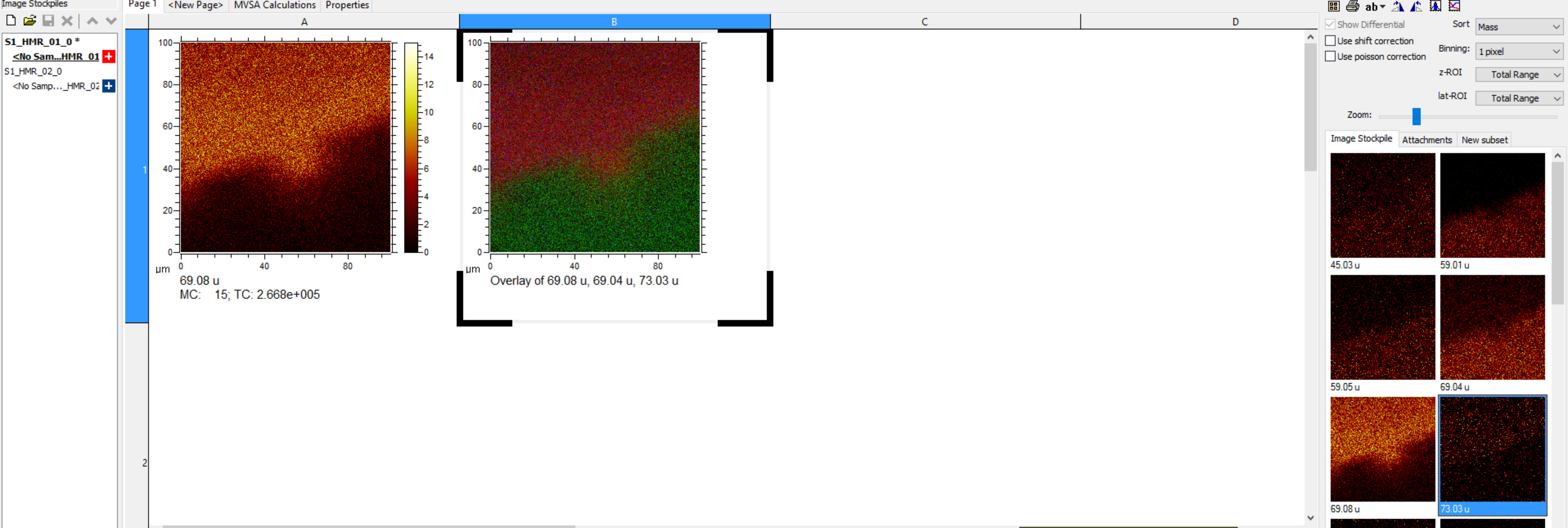
45.03 u	59.01 u
59.05 u	69.04 u
69.08 u	<b>73.03 u</b>
87.05 u	89.06 u

Source Images Overlay result

- RGB Overlay
  - Overlay (Red Channel)
    - Image (69.08 u)
  - Overlay (Green Channel)
    - Image (69.04 u)
  - Overlay (Blue Channel)
    - Image (73.03 u)

We have added m/z 73.03 into the blue channel.

← →



ab [dropdown] [dropdown] [dropdown] [dropdown] [dropdown]

Show Differential Sort: Mass [dropdown]  
 Use shift correction Binning: 1 pixel [dropdown]  
 Use poisson correction z-ROI: Total Range [dropdown]  
lat-ROI: Total Range [dropdown]

Zoom: [slider]

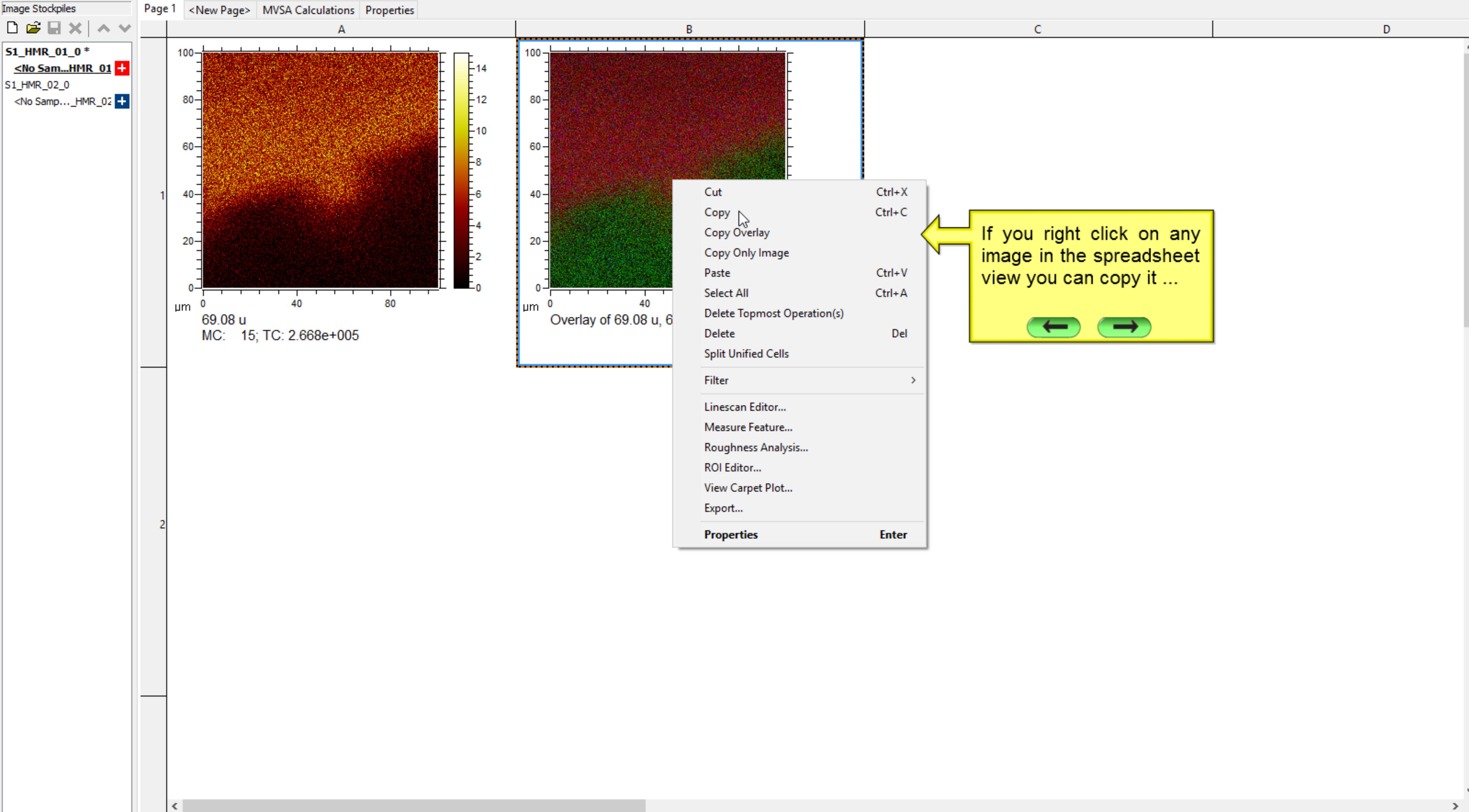
Image Stockpile Attachments New subset

45.03 u	59.01 u
59.05 u	69.04 u
69.08 u	73.03 u
87.05 u	89.06 u

Source Images Overlay result

- \$(Page 1)\$BS1
  - RGB Overlay
    - Overlay (Red Channel)
      - Image (69.08 u)
    - Overlay (Green Channel)
      - Image (69.04 u)
    - Overlay (Blue Channel)
      - Image (73.03 u)

You can close the RGB dialog by pressing the X here.



If you right click on any image in the spreadsheet view you can copy it ...

Show Differential  
 Use shift correction  
 Use poisson correction

Sort: Mass

Binning: 1 pixel

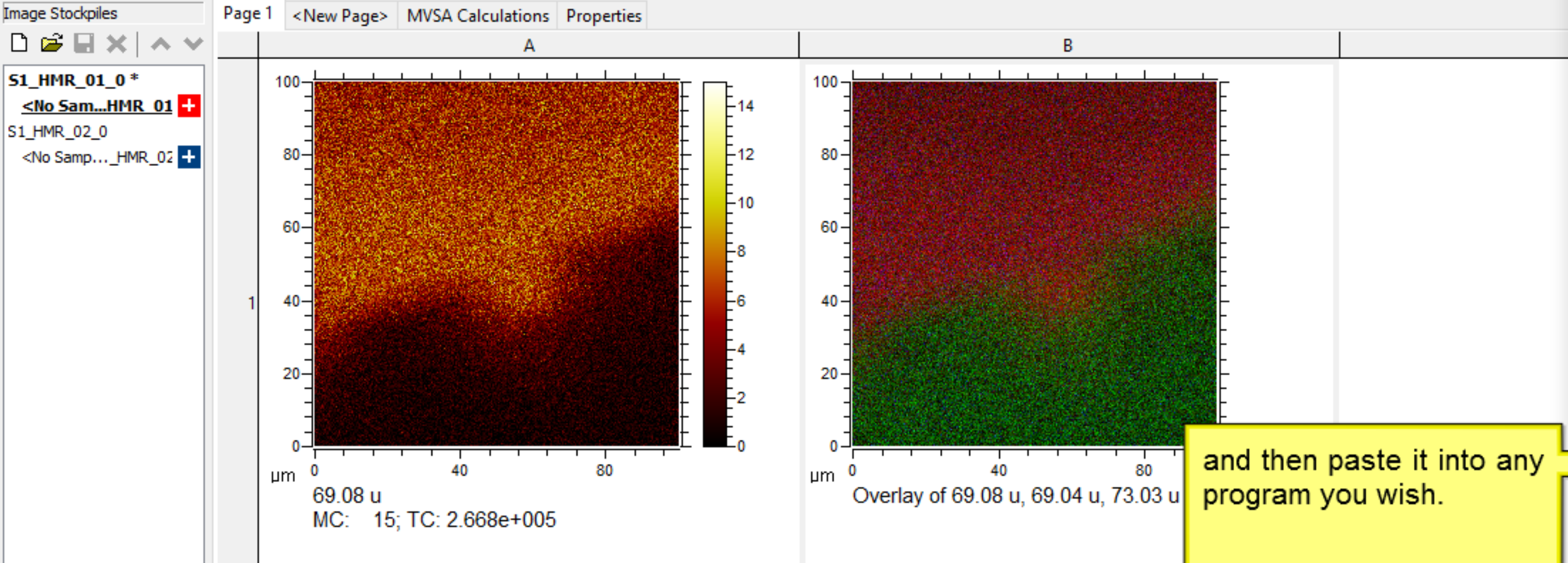
z-ROI: Total Range

lat-ROI: Total Range

Zoom: [Slider]

Image Stockpile Attachments New subset

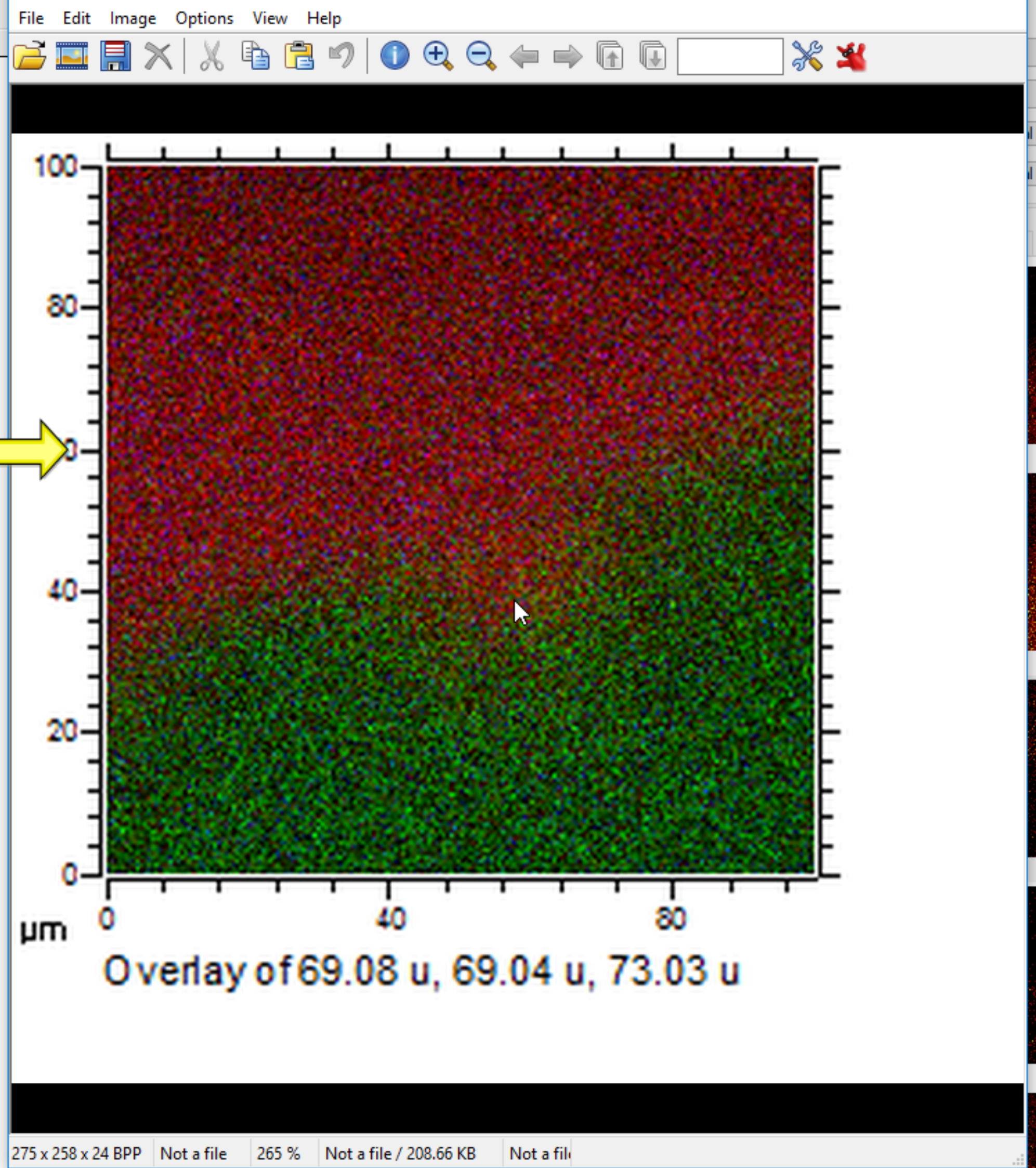
45.03 u	59.01 u
59.05 u	69.04 u
69.08 u	73.03 u
87.05 u	89.06 u

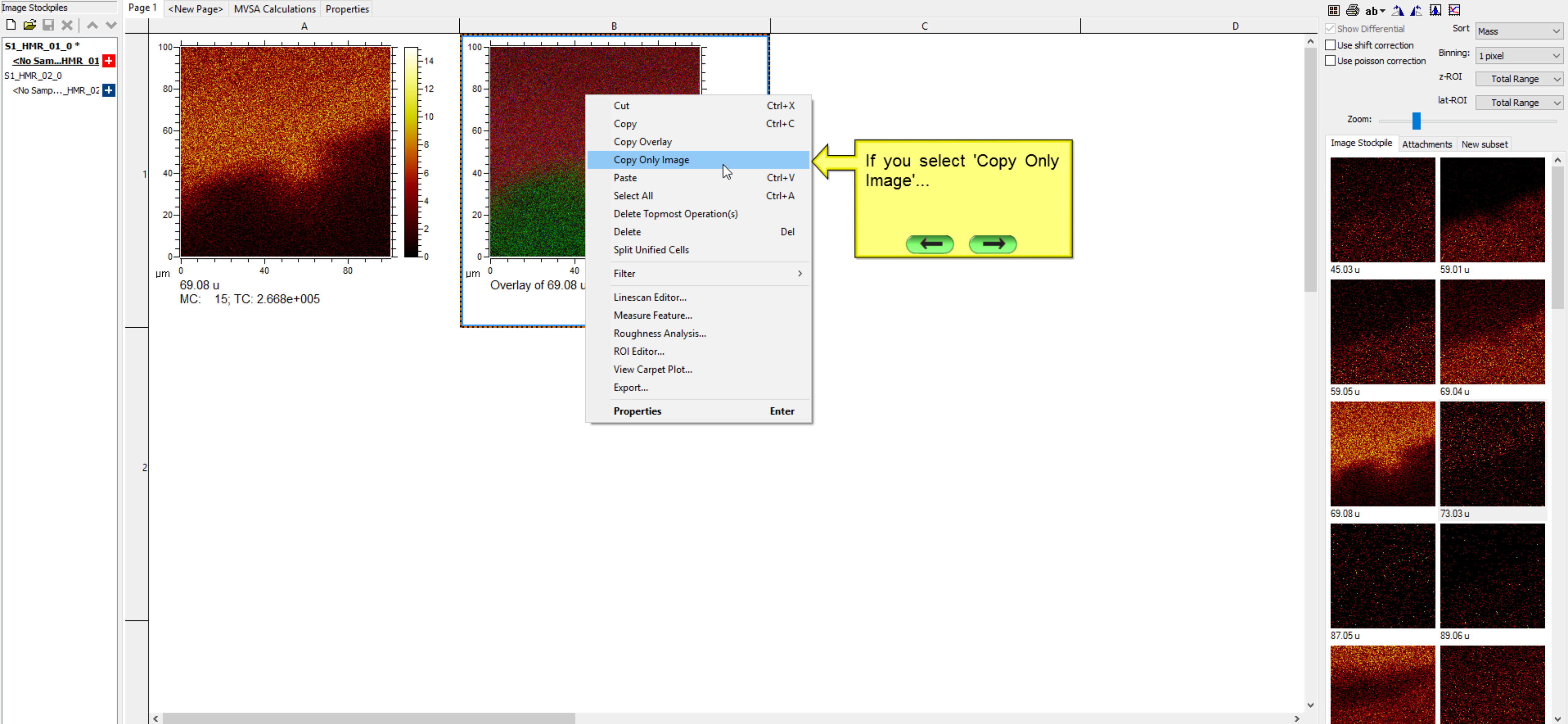


- S1\_HMR\_01\_0\*
- <No Sam...HMR\_01 +
- S1\_HMR\_02\_0
- <No Samp...\_HMR\_02 +

and then paste it into any program you wish.

← →

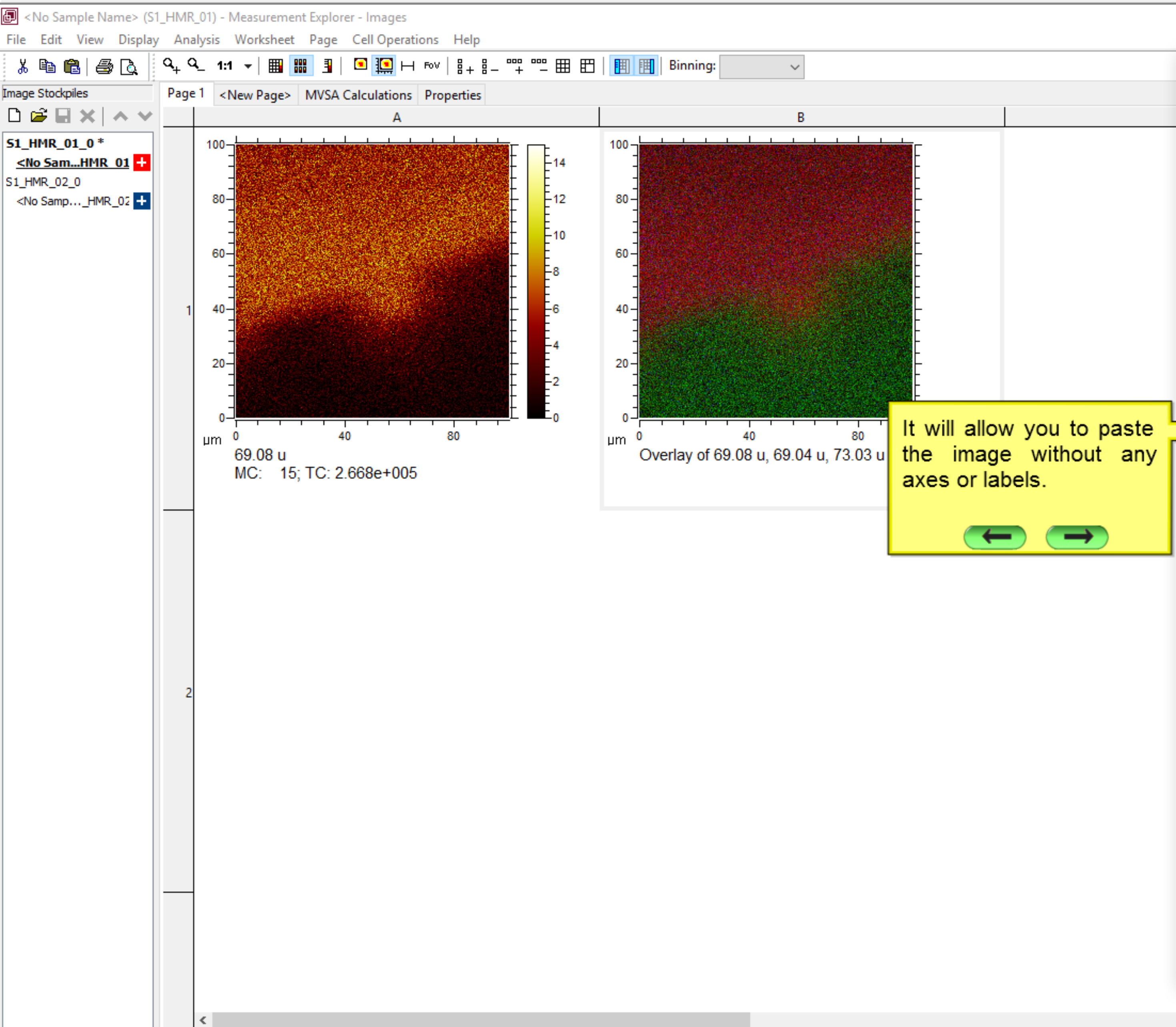




- Cut Ctrl+X
- Copy Ctrl+C
- Copy Overlay
- Copy Only Image**
- Paste Ctrl+V
- Select All Ctrl+A
- Delete Topmost Operation(s)
- Delete Del
- Split Unified Cells
- Filter >
- Linescan Editor...
- Measure Feature...
- Roughness Analysis...
- ROI Editor...
- View Carpet Plot...
- Export...
- Properties** Enter

If you select 'Copy Only Image'...





It will allow you to paste the image without any axes or labels.

← →

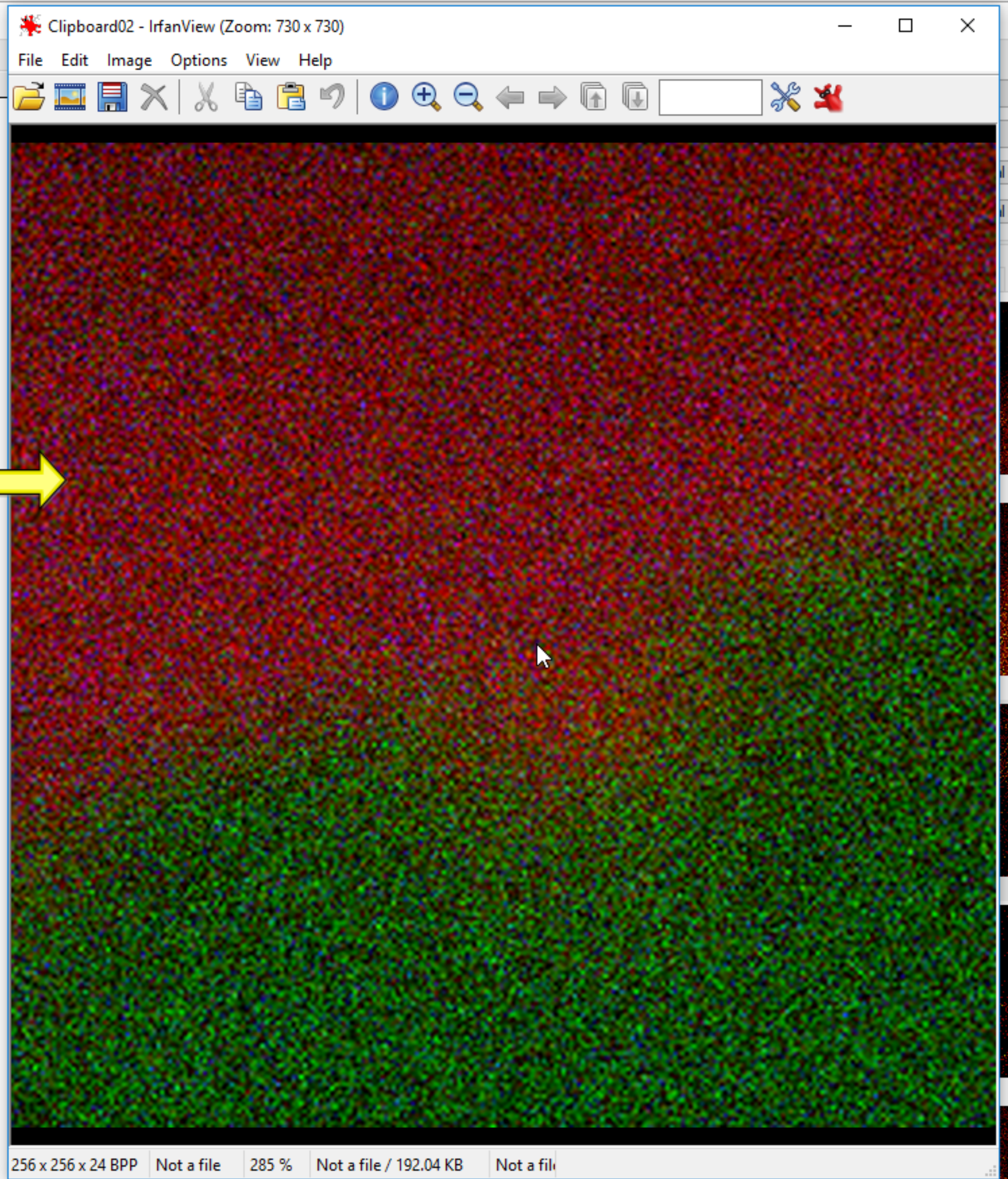


Image Stockpiles

- S1\_HMR\_01\_0 \*
- <No Sam...HMR\_01 +
- S1\_HMR\_02\_0
- <No Samp...\_HMR\_02 +

Any time you make a change to a cell in the spreadsheet you will need to save the file. Unsaved files are noted with an '\*'. ←

← →

69.08 u  
MC: 15; TC: 2.668e+005

Overlay of 69.08 u, 69.04 u, 73.03 u

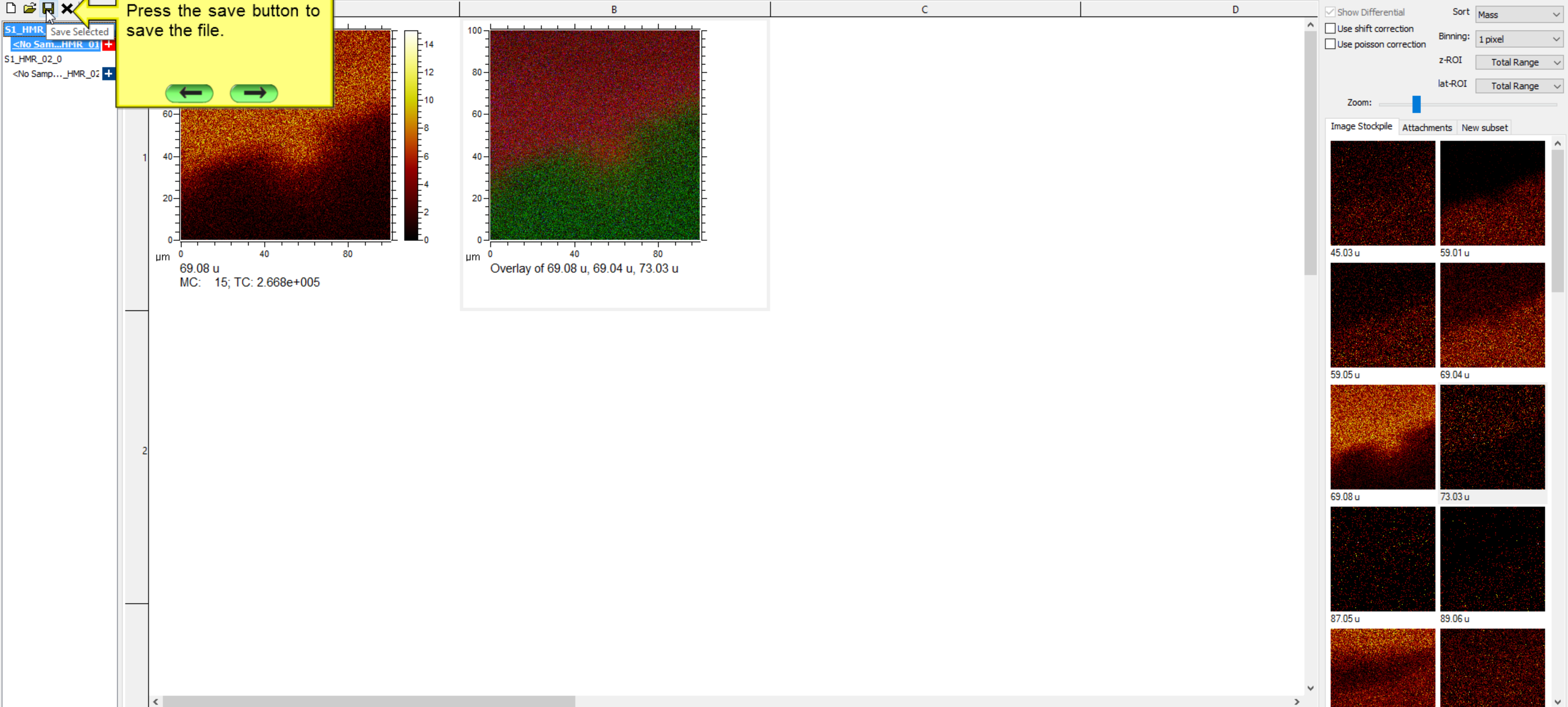
45.03 u 59.01 u  
59.05 u 69.04 u  
69.08 u 73.03 u  
87.05 u 89.06 u

Show Differential [checked] Sort: Mass  
Use shift correction [unchecked] Binning: 1 pixel  
Use poisson correction [unchecked] z-ROI: Total Range  
lat-ROI: Total Range

Zoom: [slider]

Image Stockpile Attachments New subset

Acquisition stopped Columns:10, Rows:6 NUM



Press the save button to save the file.

← →

ab [dropdown]

Show Differential Sort: Mass [dropdown]

Use shift correction Binning: 1 pixel [dropdown]

Use poisson correction z-ROI: Total Range [dropdown]

lat-ROI: Total Range [dropdown]

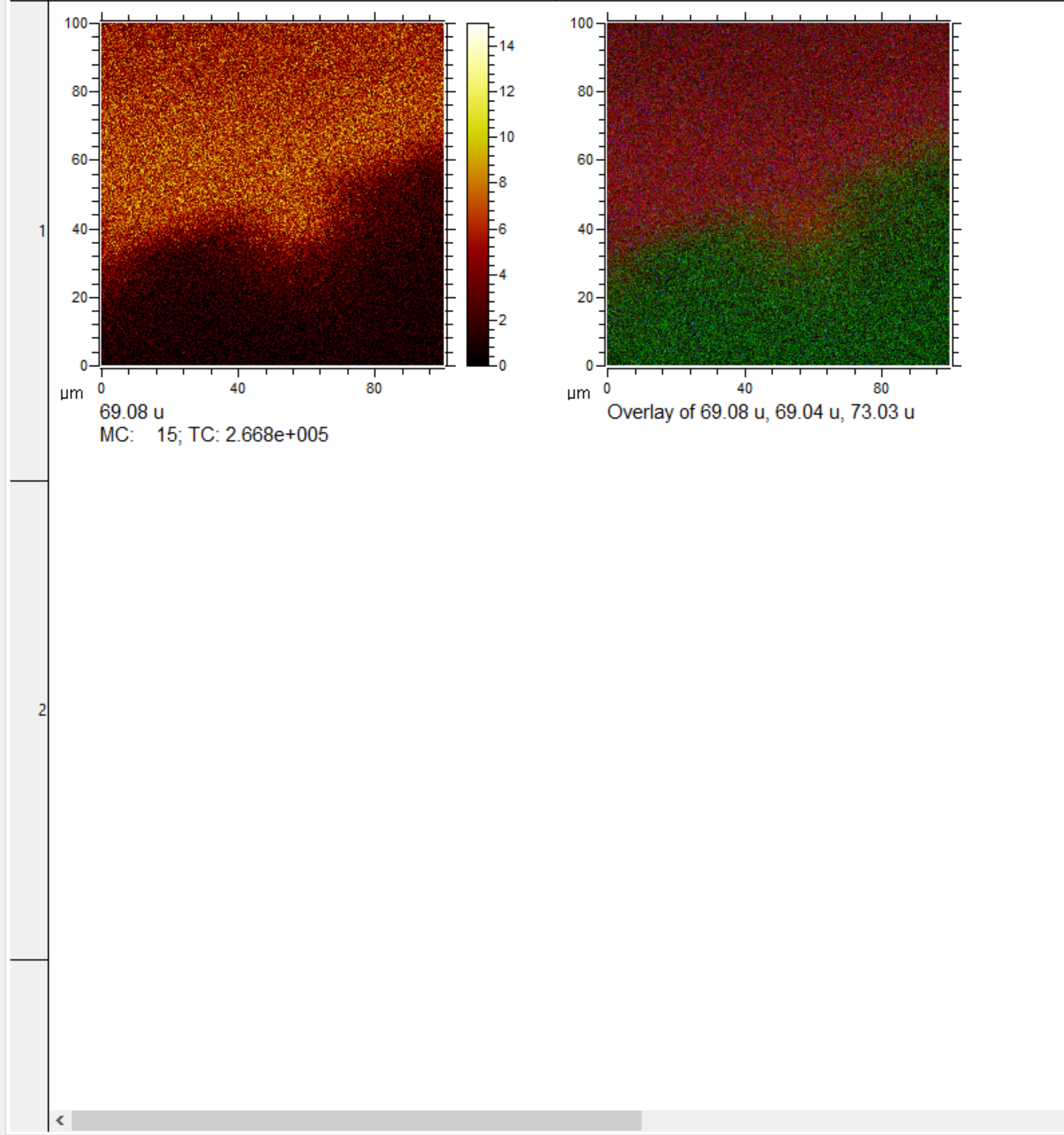
Zoom: [slider]

Image Stockpile Attachments New subset

45.03 u	59.01 u
59.05 u	69.04 u
69.08 u	73.03 u
87.05 u	89.06 u

Image Stockpiles

S1\_HMR\_01\_0  
 <No Sample Name> (S1\_HMR\_01) +  
 S1\_HMR\_02\_0  
 <No Sample Name> (S1\_HMR\_02) +



These buttons will toggle a spectral and profile inset view on or off.

Sort: Mass

Binning: 1 pixel

z-ROI: Total Range

lat-ROI: Total Range

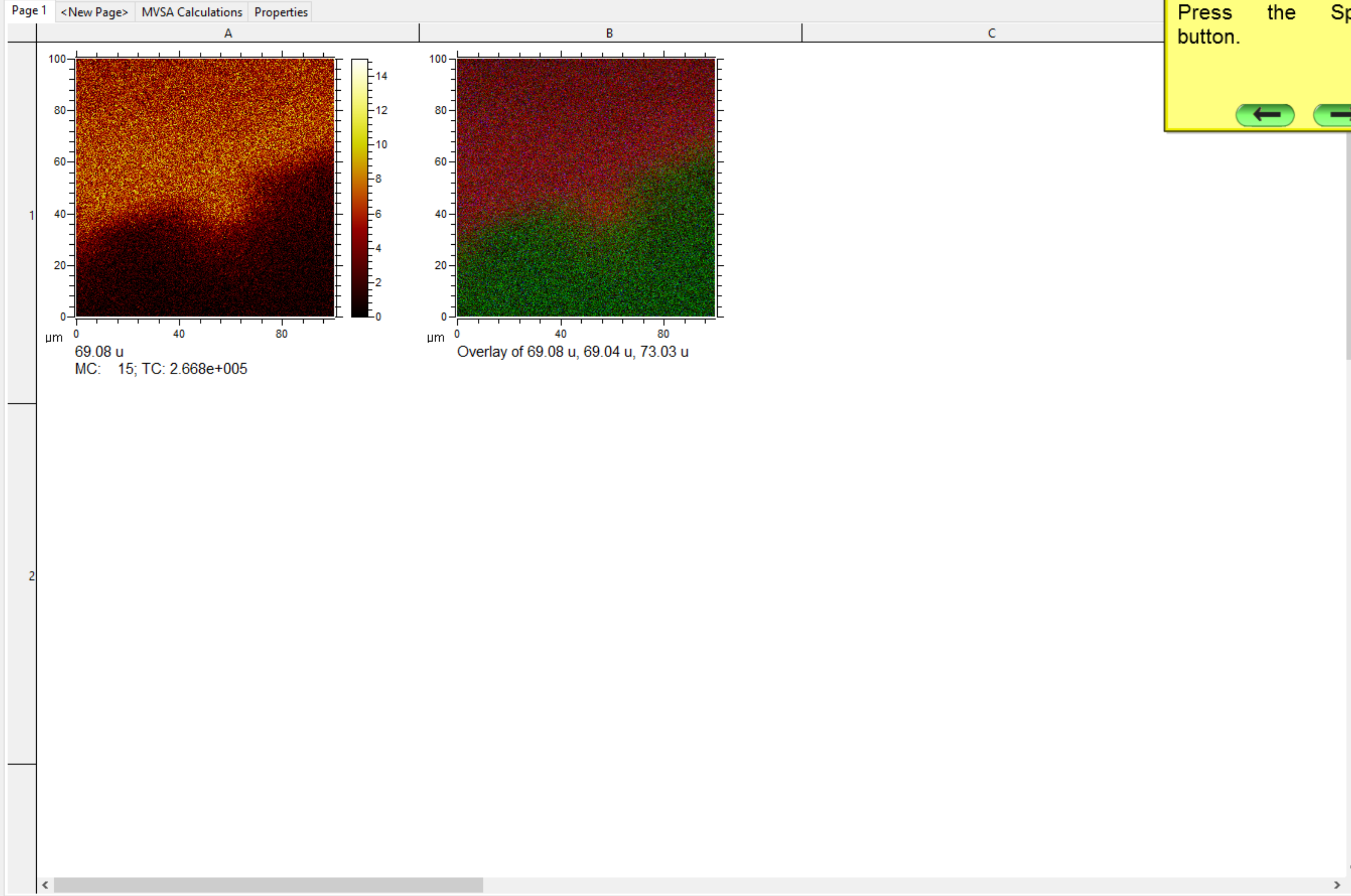
Zoom: [Slider]

Image Stockpile Attachments New subset

C3H7	PEG
PMMA	PEG
PMMA	PEG
PEG	PEG
PEG	NUM

Image Stockpiles

- S1\_HMR\_01\_0
  - <No Sample Name> (S1\_HMR\_01) +
  - S1\_HMR\_02\_0
  - <No Sample Name> (S1\_HMR\_02) +



Press the Spectrum button.

Display a spectrum preview

Binning: 1 pixel

z-ROI: Total Range

lat-ROI: Total Range

Zoom: [Slider]

Image Stockpile Attachments New subset

- C3H7 PEG
- PMMA PEG
- PMMA PEG

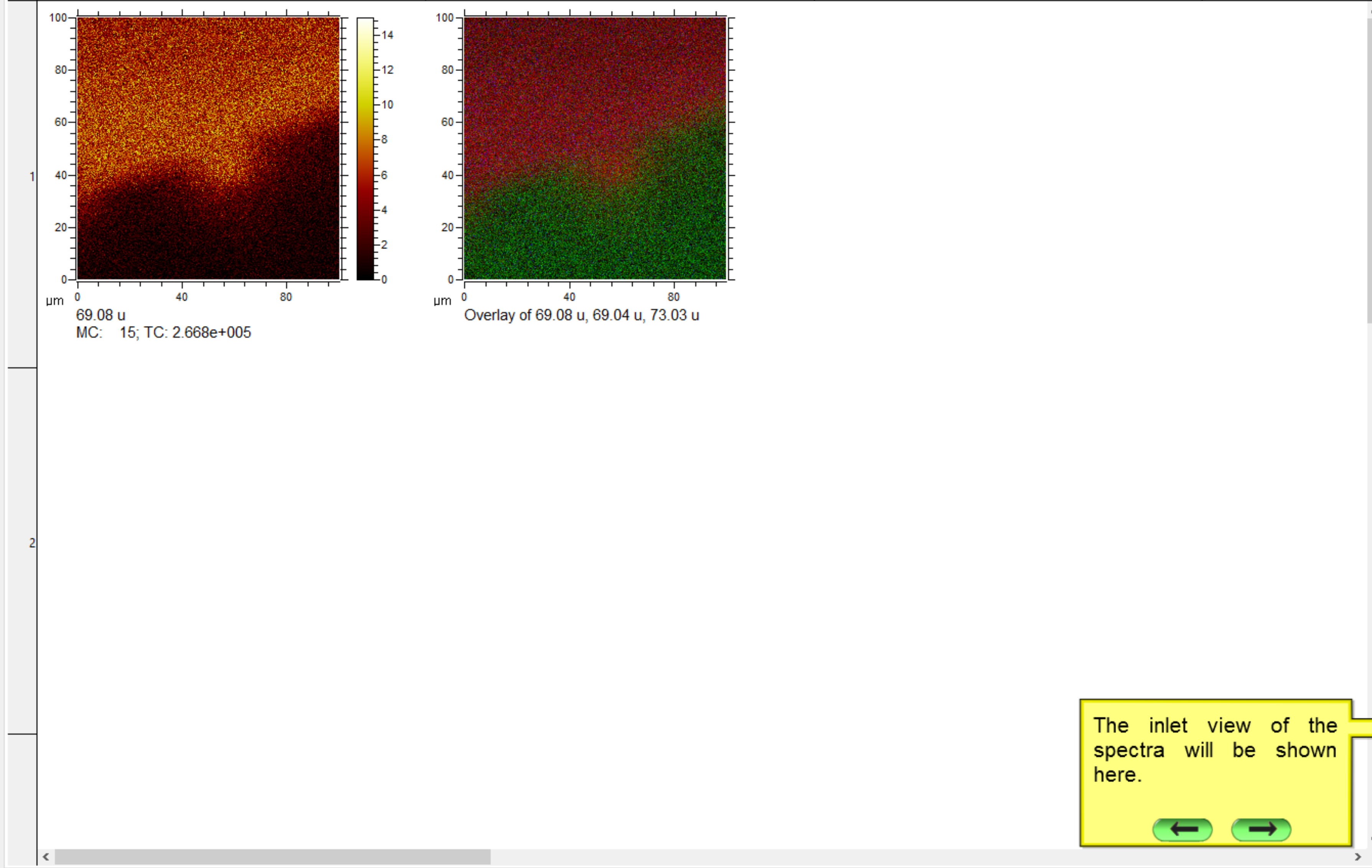
Intensity (counts)  $\cdot 10^4$

26.980 m/z, ToF: 17638.68 ns

m/z

Image Stockpiles

- S1\_HMR\_01\_0
  - <No Sample Name> (S1\_HMR\_01)
  - S1\_HMR\_02\_0
  - <No Sample Name> (S1\_HMR\_02)



ab

Show Differential  
 Use shift correction  
 Use poisson correction

Sort: Mass  
Binning: 1 pixel  
z-ROI: Total Range  
lat-ROI: Total Range

Zoom: [Slider]

Image Stockpile Attachments New subset

C3H7	PEG
PMMA	PEG
PMMA	PEG
PMMA	PEG

The inlet view of the spectra will be shown here.

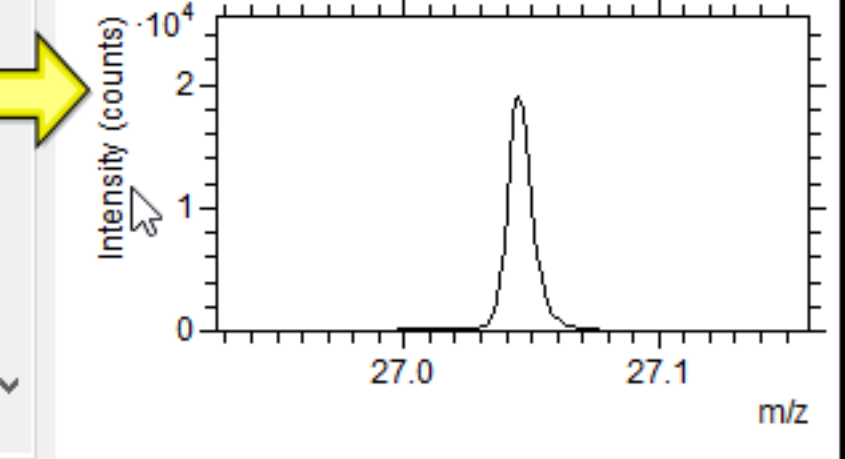
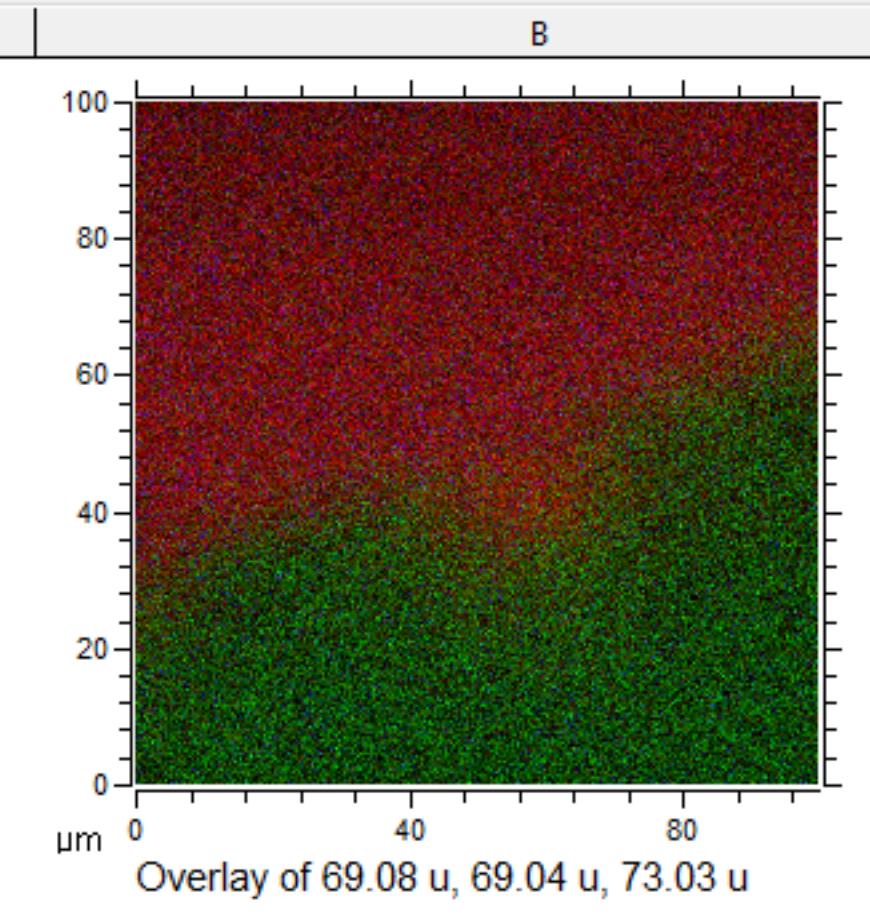
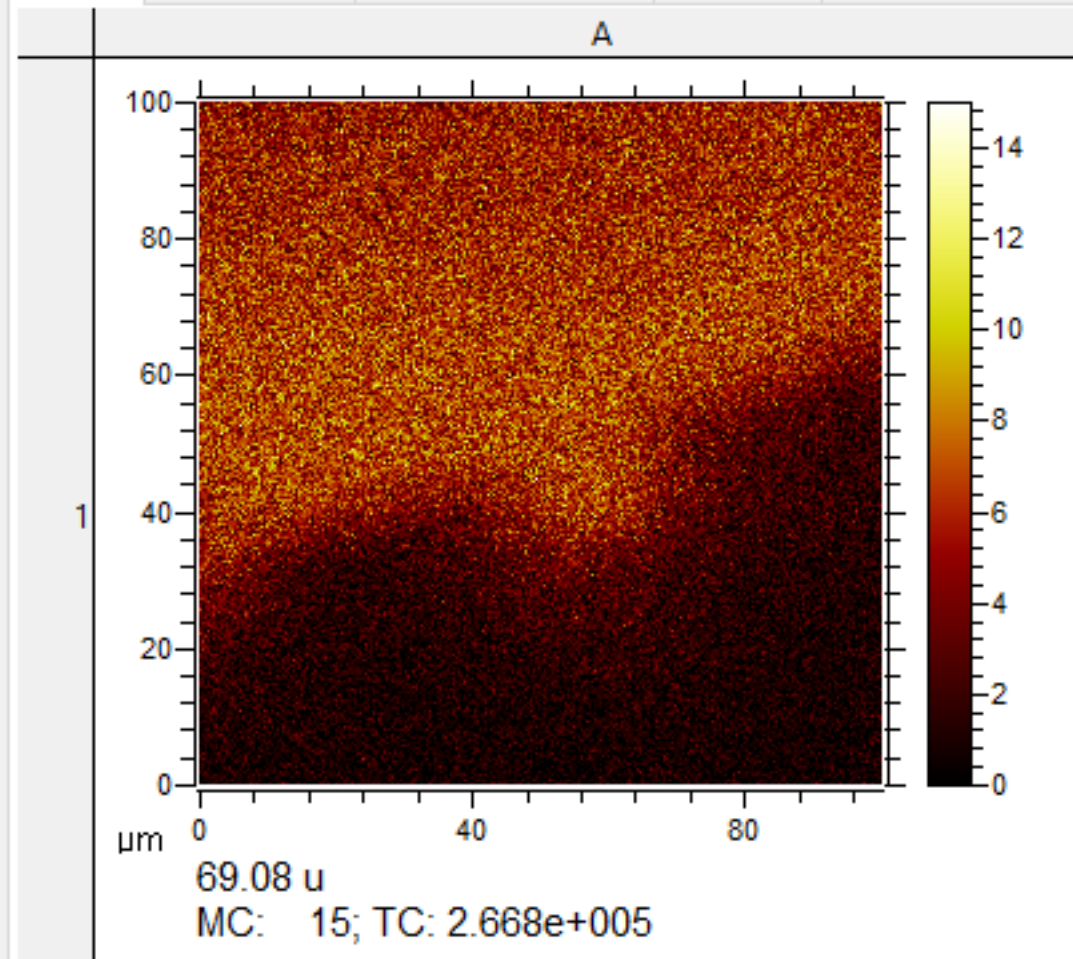


Image Stockpiles

- S1\_HMR\_01\_0\*
- <No Sample Name> (S1\_HMR\_01)\*
- S1\_HMR\_02\_0
- <No Sample Name> (S1\_HMR\_02)



ab [dropdown]

Show Differential  
 Use shift correction  
 Use poisson correction

Sort: Mass [dropdown]  
Binning: 1 pixel [dropdown]  
z-ROI: Total Range [dropdown]  
lat-ROI: Total Range [dropdown]

Zoom: [slider]

Image Stockpile Attachments New subset

43.06 u	45.03 u
59.01 u	59.05 u
69.04 u	73.03 u

Click on any peak in this list.

← →

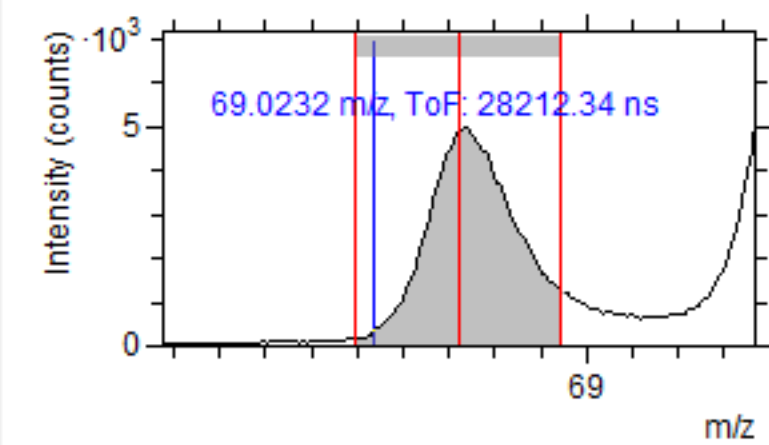


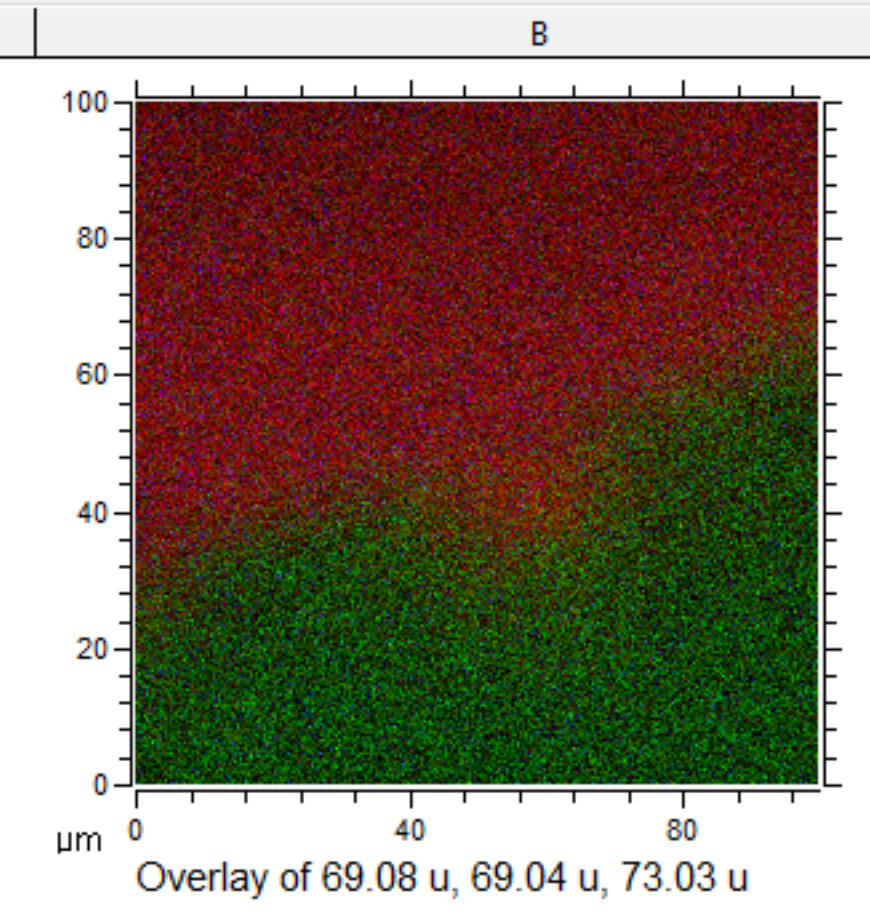
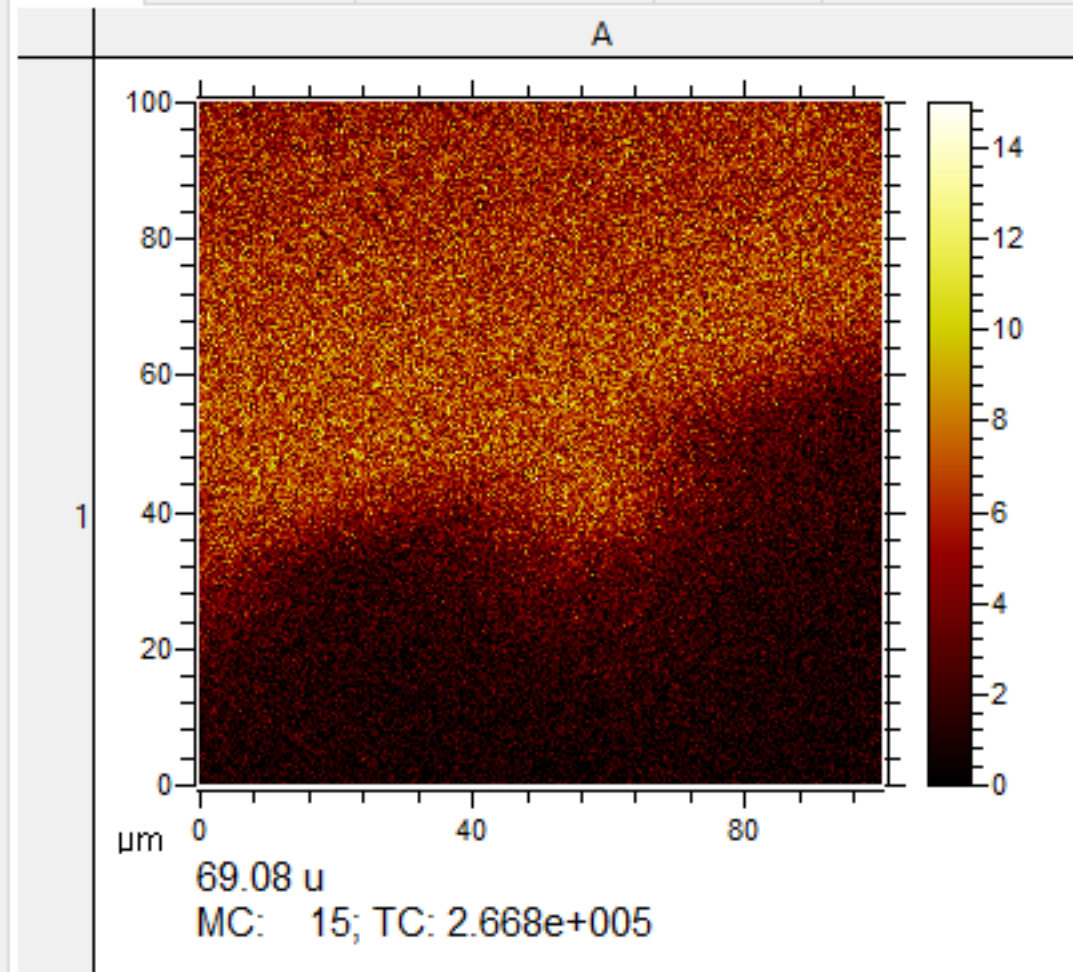
Image Stockpiles

S1\_HMR\_01\_0\*

<No Sample Name> (S1\_HMR\_01) \*

S1\_HMR\_02\_0

<No Sample Name> (S1\_HMR\_02)



ab

Show Differential

Use shift correction

Use poisson correction

Sort: Mass

Binning: 1 pixel

z-ROI: Total Range

lat-ROI: Total Range

Zoom: [Slider]

Image Stockpile Attachments New subset

43.06 u	45.03 u
59.01 u	59.05 u
69.04 u	73.03 u

An the selected peak in the spectrum will show here. All of the spectral controls work in this inlet window.

← →

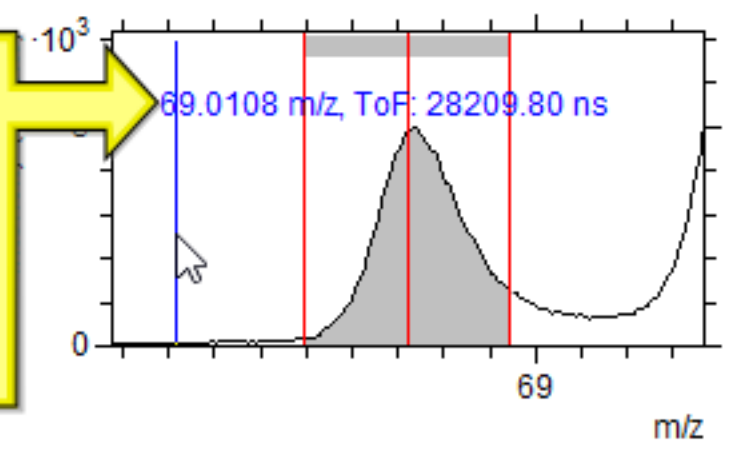


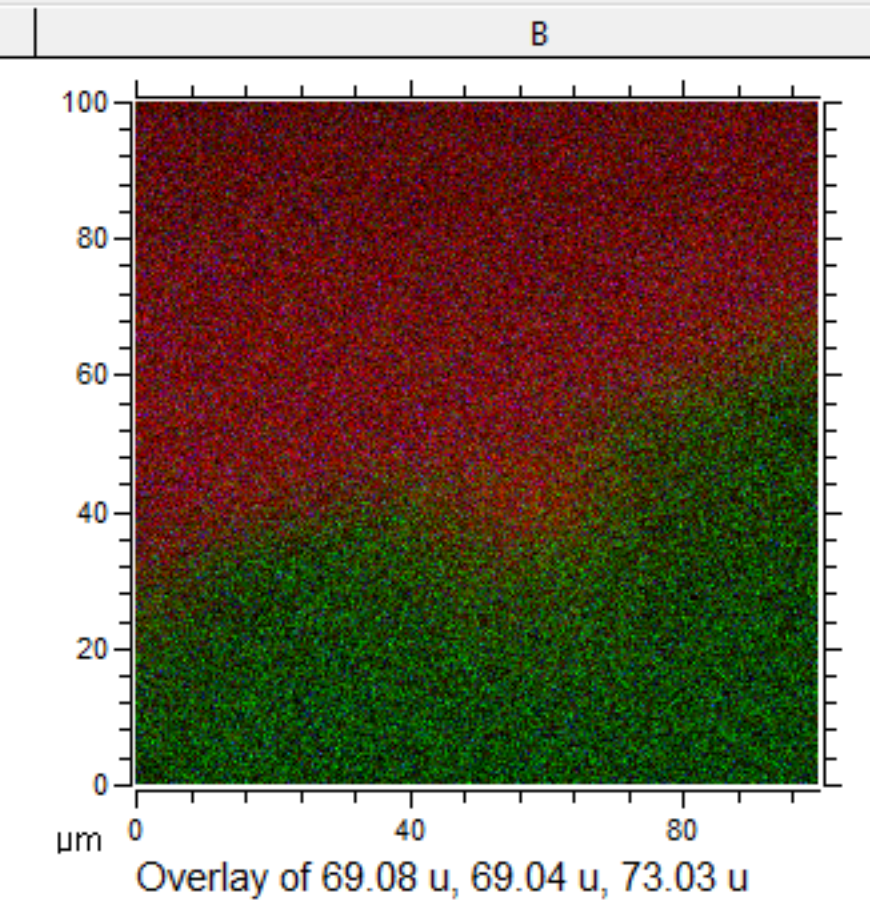
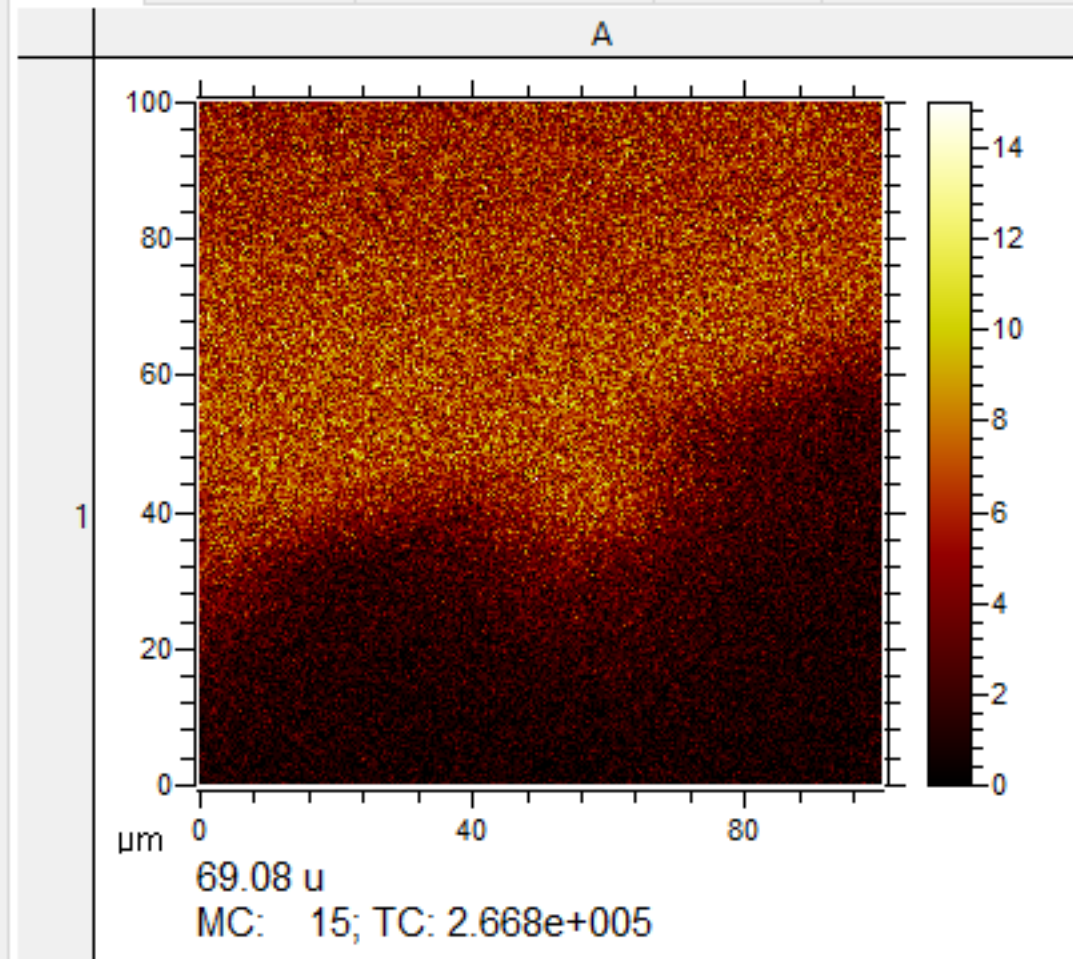
Image Stockpiles

S1\_HMR\_01\_0\*

<No Sample Name> (S1\_HMR\_01) \*

S1\_HMR\_02\_0

<No Sample Name> (S1\_HMR\_02)



ab

Show Differential

Use shift correction

Use poisson correction

Sort: Mass

Binning: 1 pixel

z-ROI: Total Range

lat-ROI: Total Range

Zoom: [Slider]

Image Stockpile Attachments New subset

43.06 u	45.03 u
59.01 u	59.05 u
69.04 u	73.03 u

You can select and change the integration limits within this window.

← →

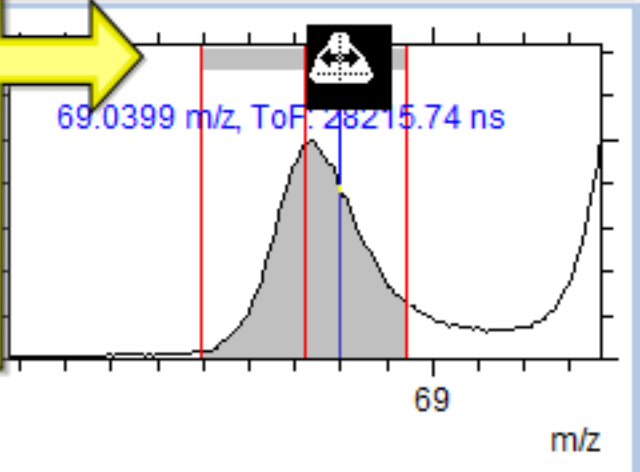
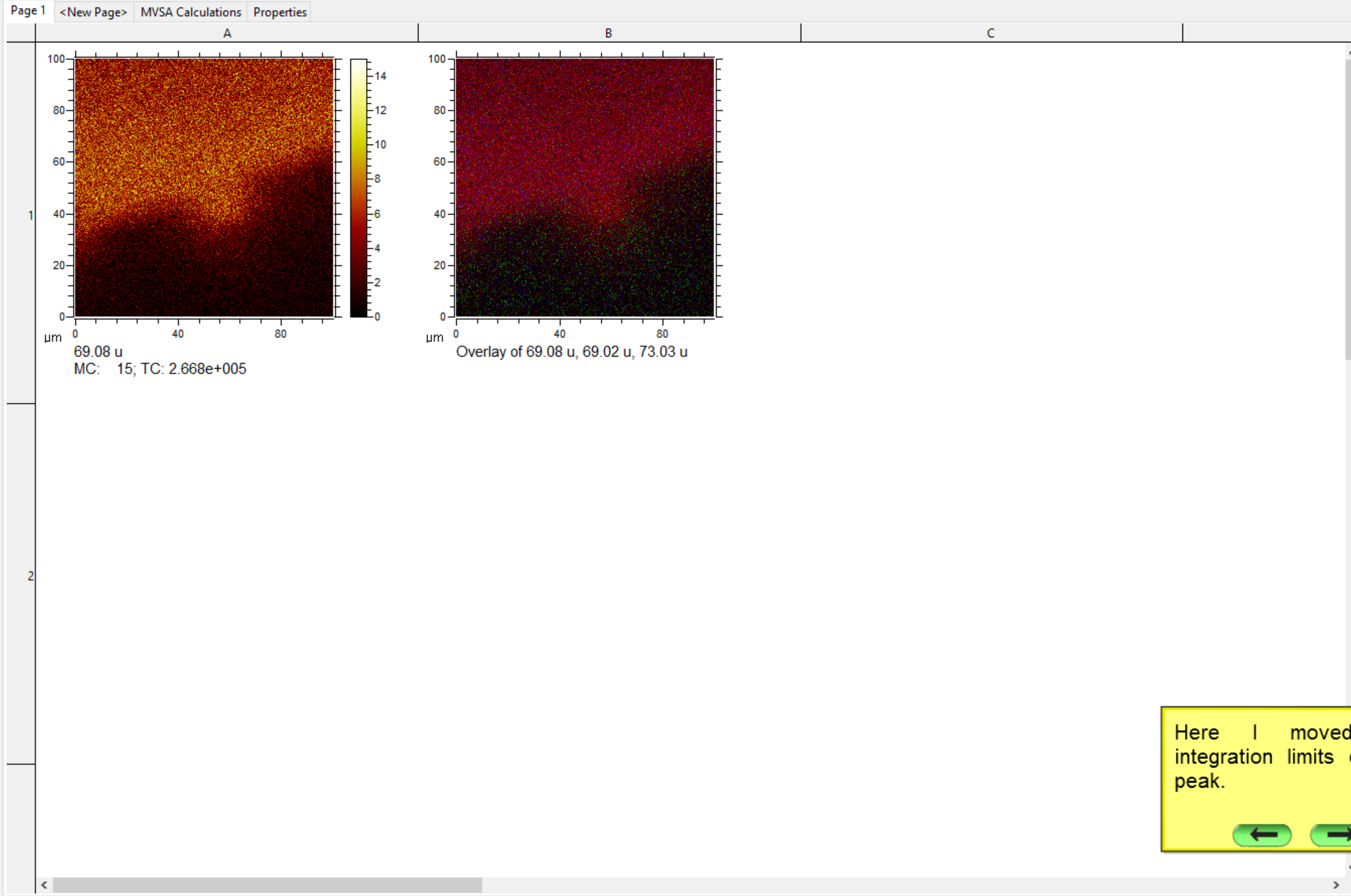


Image Stockpiles

- S1\_HMR\_01\_0\*
- <No Sample Name> (S1\_HMR\_01)\*
- S1\_HMR\_02\_0
- <No Sample Name> (S1\_HMR\_02)



ab

Show Differential  
 Use shift correction  
 Use poisson correction

Sort: Mass  
Binning: 1 pixel  
z-ROI: Total Range  
lat-ROI: Total Range

Zoom: [Slider]

Image Stockpile Attachments New subset

43.06 u	45.03 u
59.01 u	59.05 u
69.04 u	73.03 u

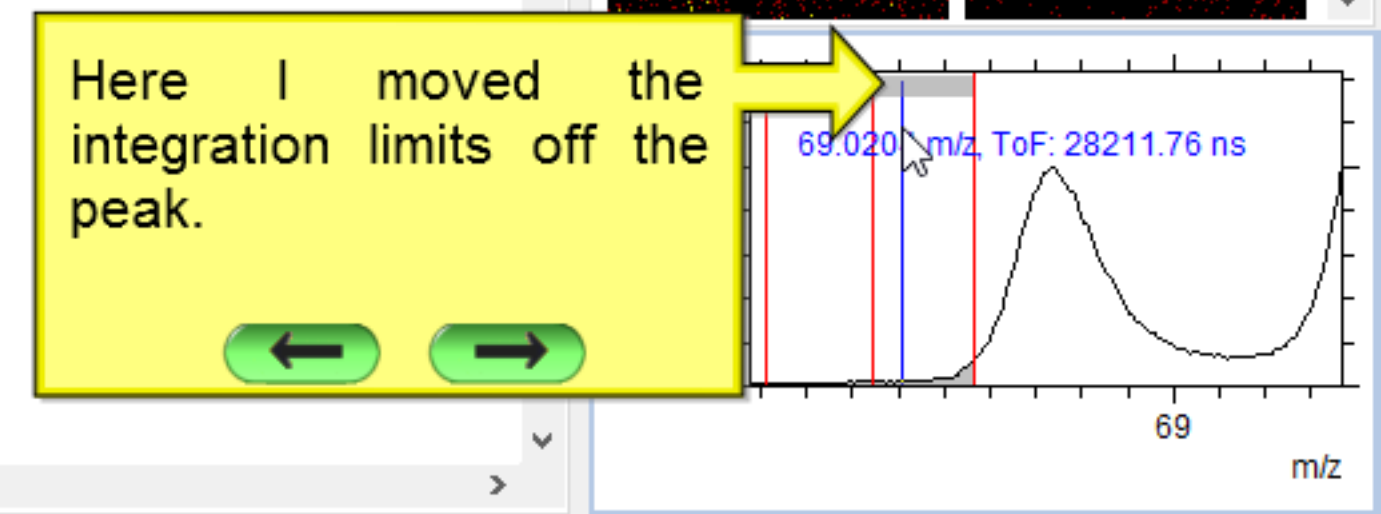


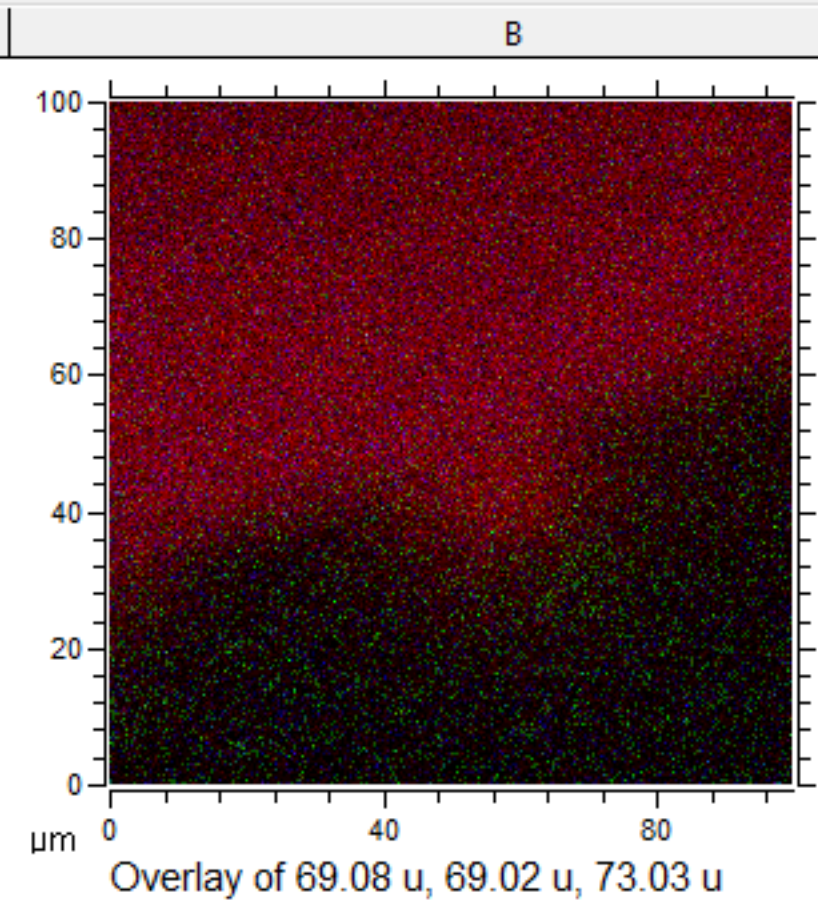
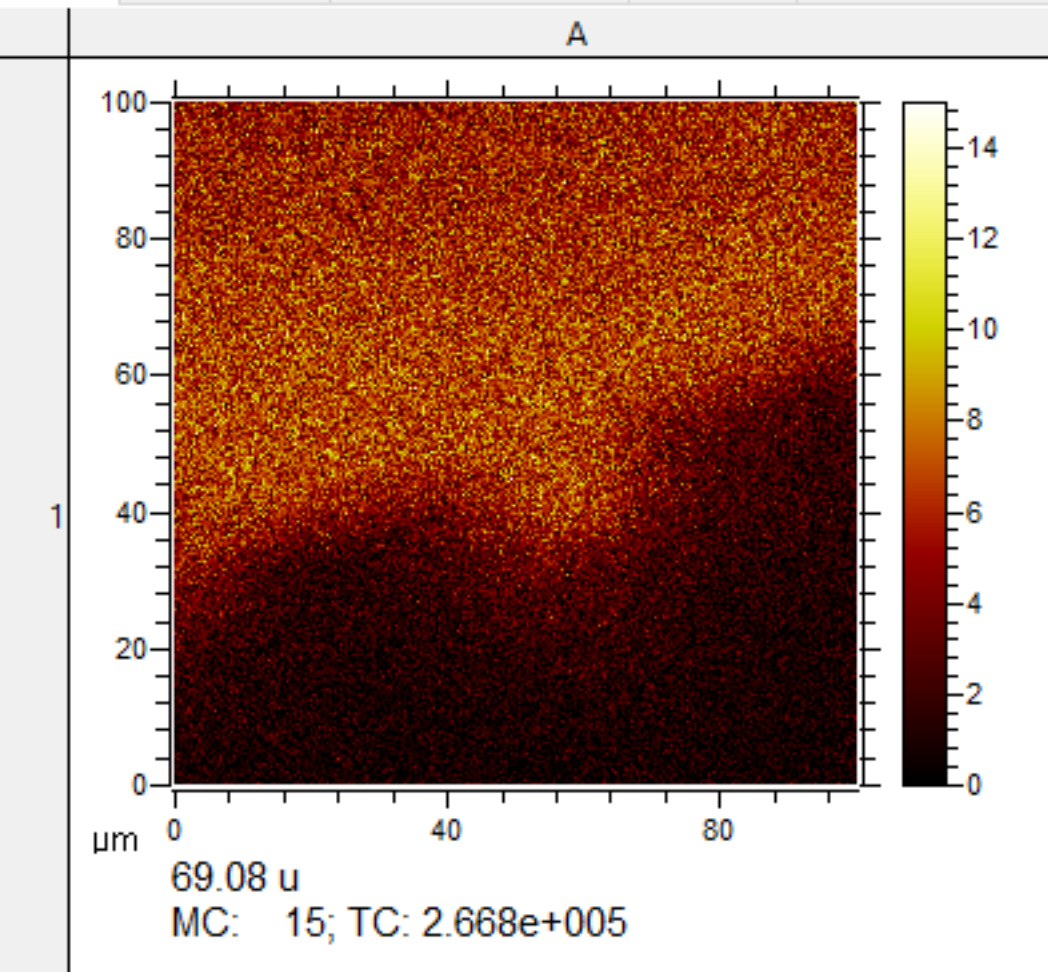
Image Stockpiles

S1\_HMR\_01\_0\*

<No Sample Name> (S1\_HMR\_01) \*

S1\_HMR\_02\_0

<No Sample Name> (S1\_HMR\_02)



Any image the uses that peak will also be updated in real time.

The image changes in realtime.

ab

Show Differential

Use shift correction

Use poisson correction

Sort: Mass

Binning: 1 pixel

z-ROI: Total Range

lat-ROI: Total Range

Zoom: [Slider]

Image Stockpile Attachments New subset

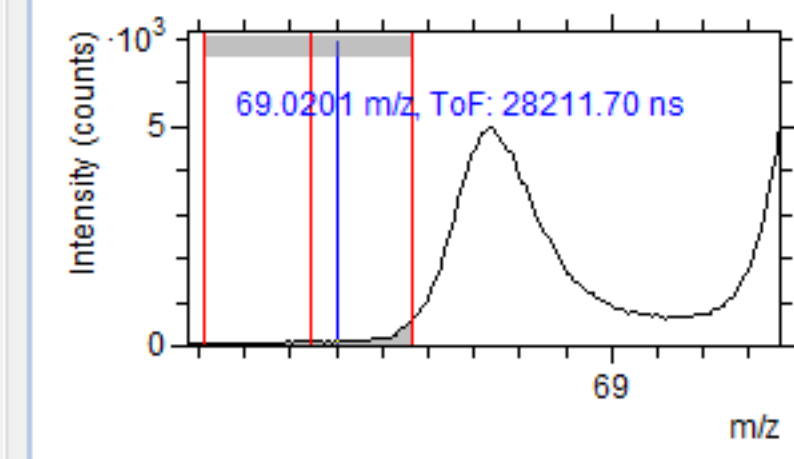
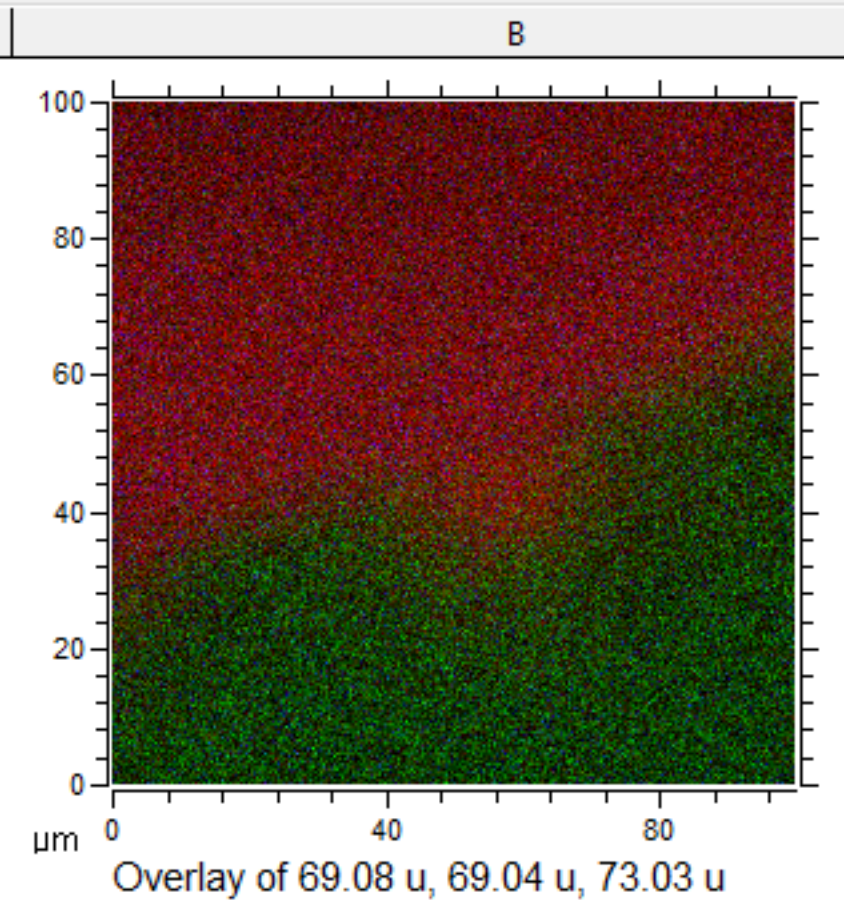
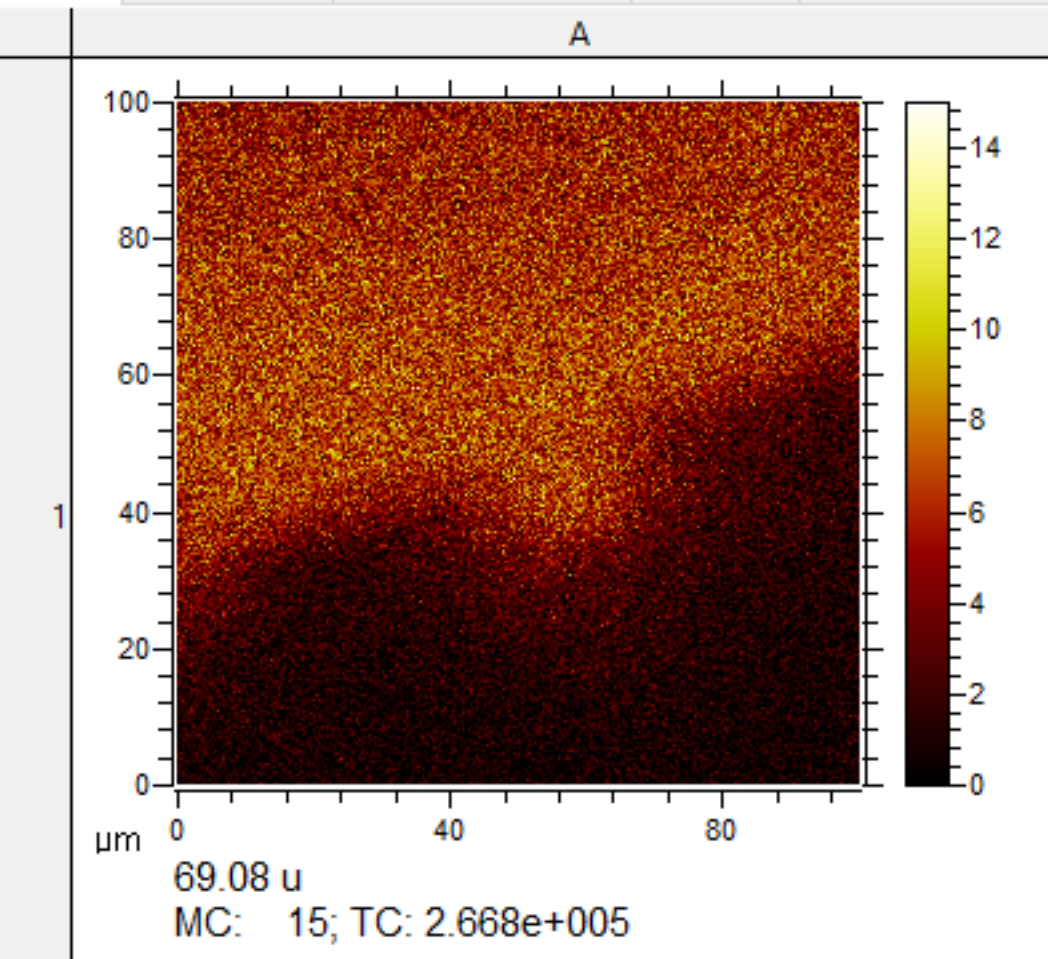


Image Stockpiles

- S1\_HMR\_01\_0\*
- <No Sample Name> (S1\_HMR\_01)\*
- S1\_HMR\_02\_0
- <No Sample Name> (S1\_HMR\_02)



ab

- Show Differential
- Use shift correction
- Use poisson correction

Sort: Mass

Binning: 1 pixel

z-ROI: Total Range

lat-ROI: Total Range

Zoom: [Slider]

Image Stockpile Attachments New subset

43.06 u	45.03 u
59.01 u	59.05 u
69.04 u	73.03 u

The integration limits have been reset to a more reasonable location (near the full width at half max).

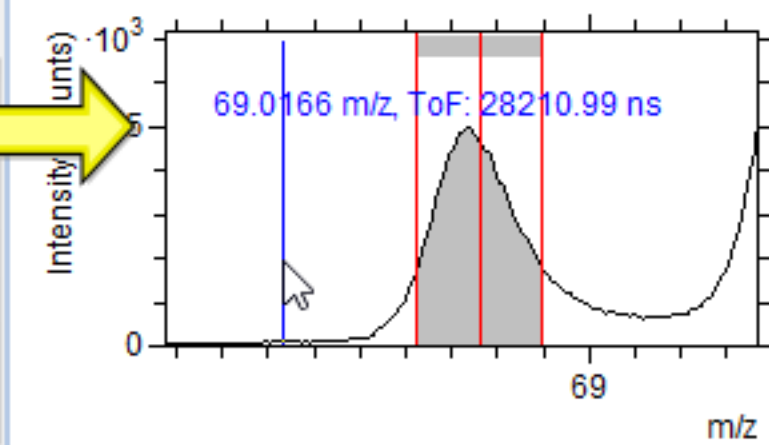
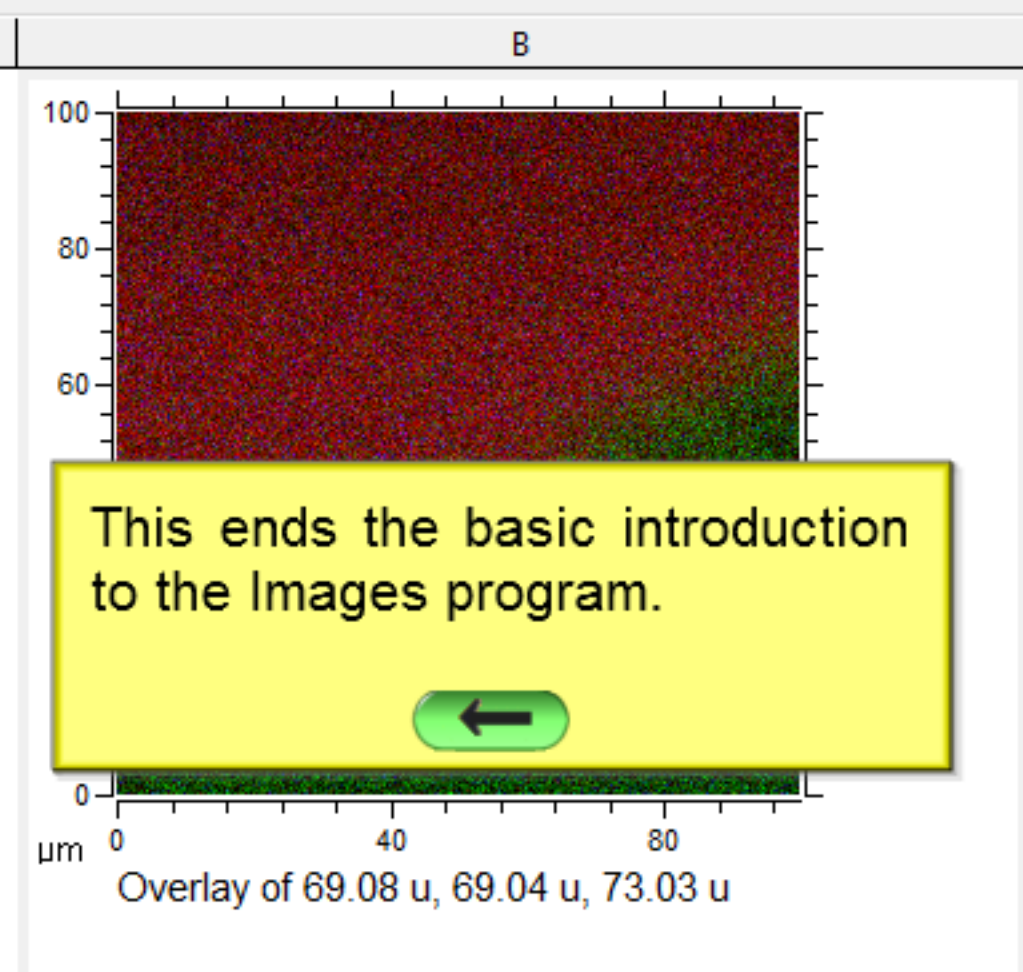
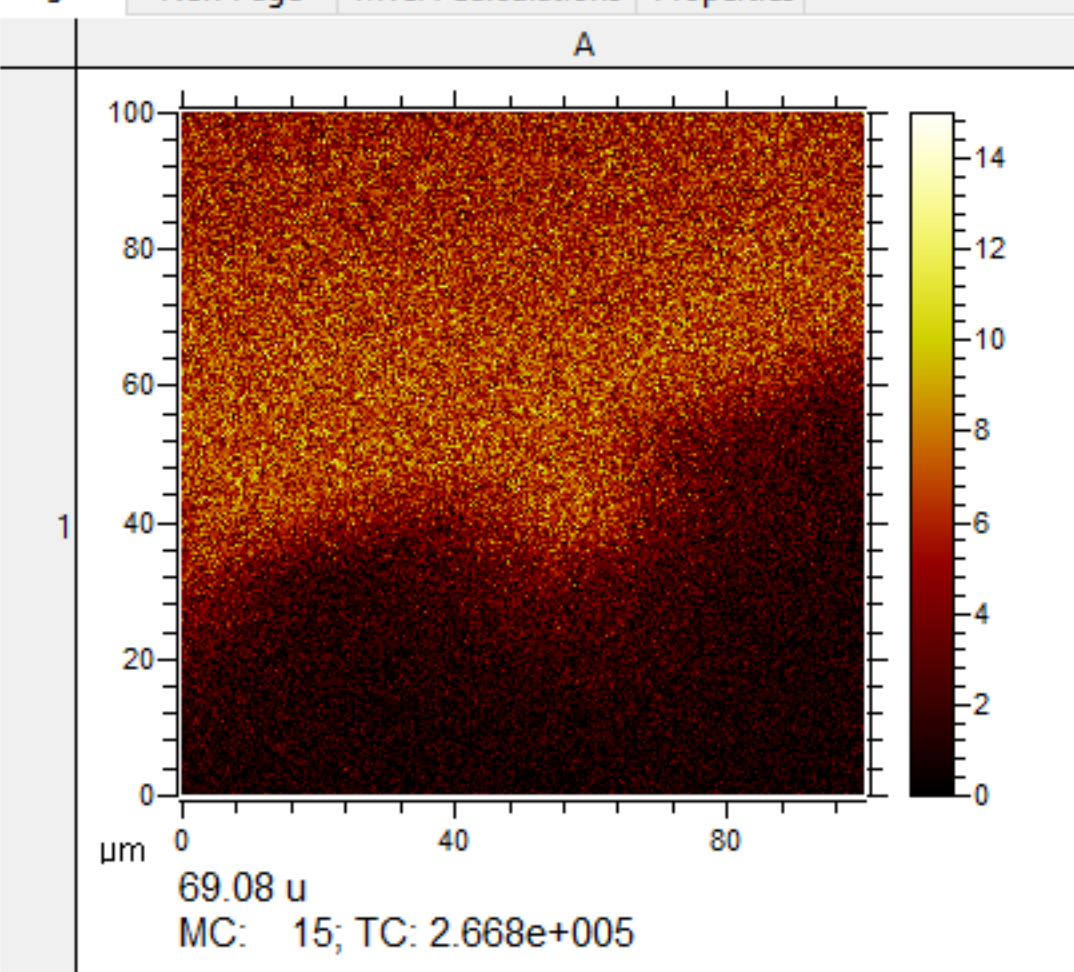


Image Stockpiles

- S1\_HMR Save Selected
- <No Sam...HMR\_01 +
- S1\_HMR\_02\_0
- <No Samp...\_HMR\_02 +



ab [dropdown]

- Show Differential
- Use shift correction
- Use poisson correction

Sort: Mass [dropdown]  
Binning: 1 pixel [dropdown]  
z-ROI: Total Range [dropdown]  
lat-ROI: Total Range [dropdown]

Zoom: [slider]

Image Stockpile Attachments New subset

45.03 u	59.01 u
59.05 u	69.04 u
69.08 u	73.03 u
87.05 u	89.06 u