# Guide to Creating the Polygon Region of Interest (ROI)

The polygon ROI supports the following interactivity, including keyboard shortcuts. Notes especially important to the musc\_thresh\_ptoa.m program are highlighted or color-coded.

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| **Behavior** | **Keyboard Shortcut** |
| Finish Drawing (Close) the ROI | * Position the pointer over the first vertex and **click**. * **Double-click**. Adds a new vertex at the pointer position and draws a line to the first vertex to close the polygon. * Press **Enter**. Adds a new vertex at the pointer position and draws a line to the first vertex to close the polygon. * **Right-click**. Does not add a new vertex but closes the polygon from the previous vertex. |
| Add a New Vertex to the ROI | * Position the pointer over the edge of the ROI, right-click, and select **Add Vertex** from the context menu. * Position the pointer over the edge of the ROI and double-click. (WILL ALSO FINISH DRAWING THE ROI) |
| Remove the Most Recently Added Vertex but Keep Drawing | * Press **Backspace**. The function redraws the line from the previous vertex to the current position of the pointer. You can only back up to the first vertex you drew. |
| Resize (Reshape) the ROI  CAN ONLY DO THIS ONCE THE POLYGON IS CLOSED! | * Position the pointer over a vertex and then click and drag. * Add a new vertex to the polygon and then click and drag. * Remove a vertex. The ROI redraws the line connecting the two neighboring vertices. |
| Cancel Drawing the ROI  PLEASE DO NOT DO THIS! | * Press **Esc**. The function returns a valid ROI object with an empty Position field.   You will have to start the program over! Please do NOT press **Esc**! |
| Delete the ROI  PLEASE DO NOT DO THIS! | * Position the pointer on the ROI, right-click, and choose **Delete Polygon** from the context menu.   You will have to start the program over! Please do NOT delete the ROI! |

For further help, look at *help images.roi.Polygon* or *help drawpolygon* on MATLAB or online at <https://www.mathworks.com/help/images/ref/images.roi.polygon.html>

# Notes:

1. The cursor changes to a circle near a vertex to allow for repositioning or deleting that vertex.
2. A right click brings up a menu for adding/deleting vertices (and the ROI).