Start with the supramarginal gyrus . To find it, look at the course of the Sylvan fissure on the sagittal view. Typically, the Sylvian turns upward at its posterior extent. The postcentral sulcus is often in front of the branch that extend upward, and Jensen's sulcus (primary intermediate sulcus) is often in back of it.

1. Find a sagittal slice where the anatomy is clear to you. Click near the top of the supramarginal. In the axial view, fill in the supramarginal. Fig 1.
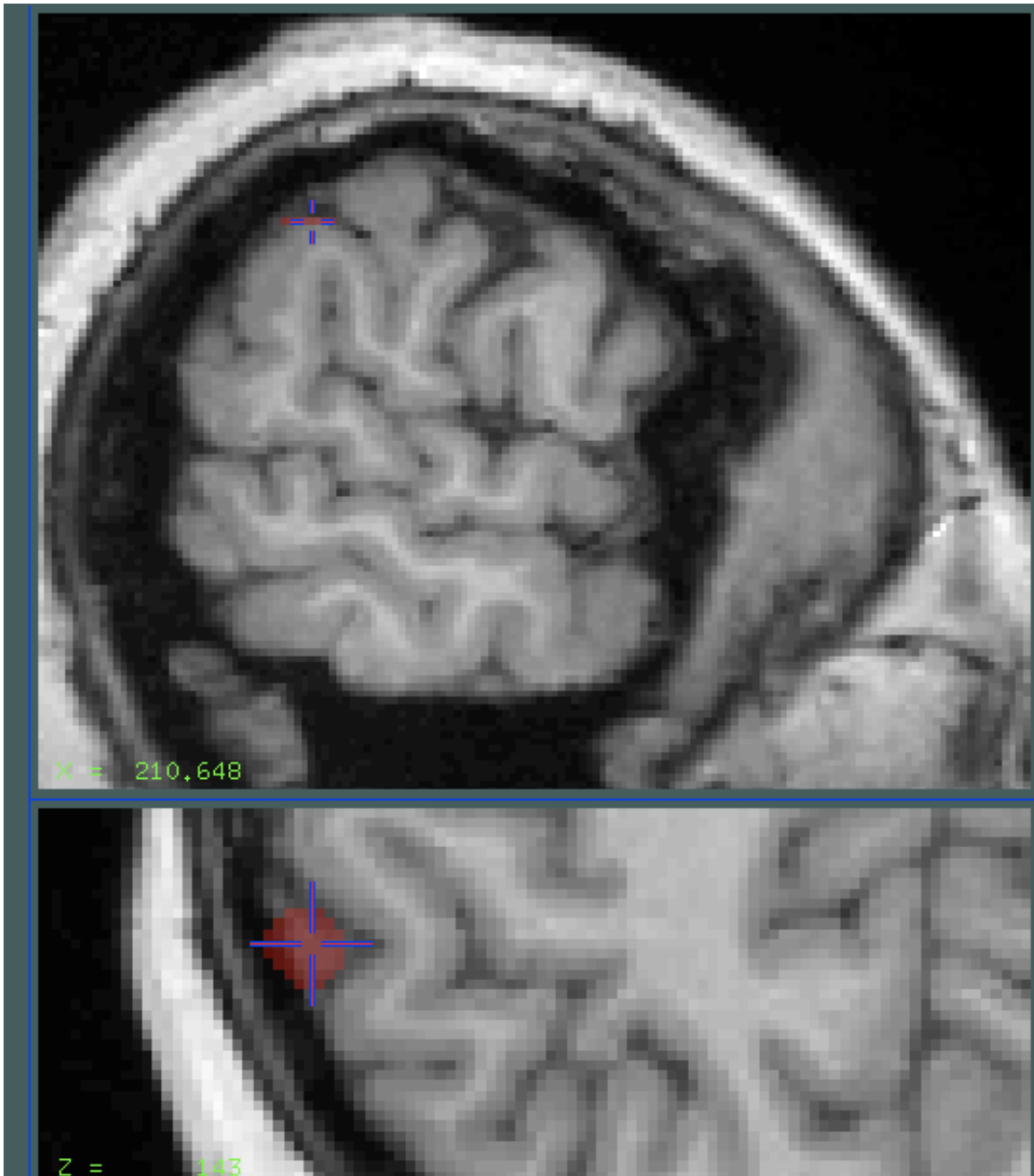
2. Choose the most inferior slice using the sagittal view. If the Sylvian has a posterior branch, as well as the branch going superior, select the slice where the branches diverge, Fig 3.
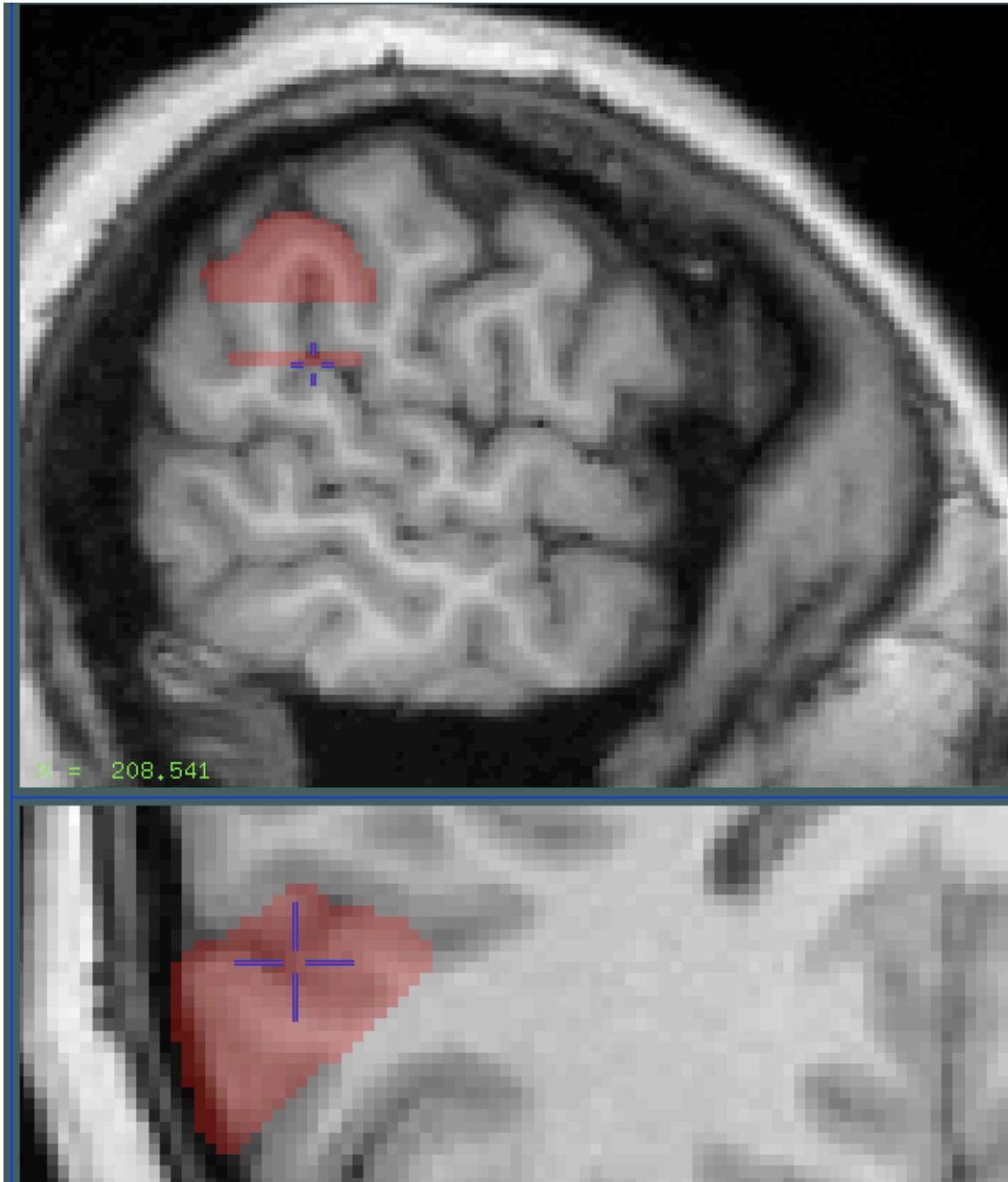

3. Continue to fill in the supramarginal gyrus on the axial view between these slices. Use the postcentral sulcus as the anterior border, and the primary intermediate as the posterior border. Follow the gray matter to its medial extent along each of these gyri, and connect the ends using a straight line. Fig 2.
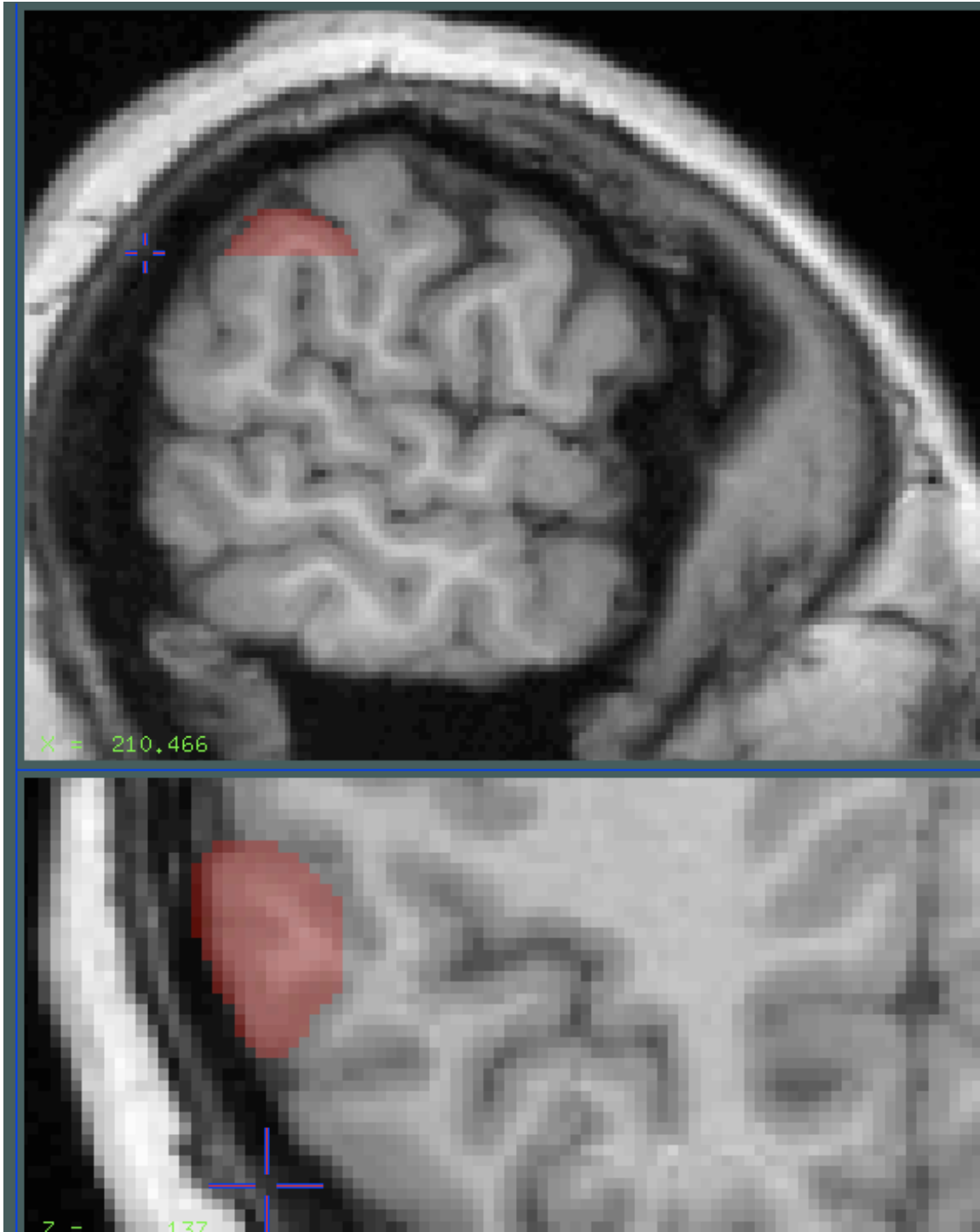
4. Clean up on the coronal view. Notice places where the label extends beyond reasonable boundaries. Fig 4, Fig 5. Fig 6, Fig 7. Remember than the postcenteral sulcus and primary sulcus are boundaries at the front and back of the gyrus.
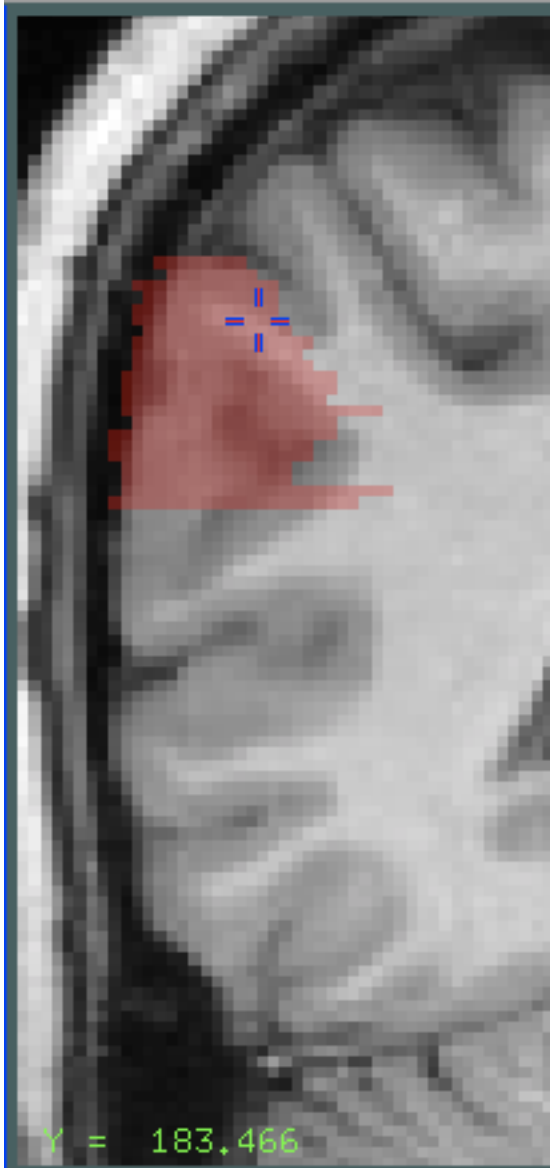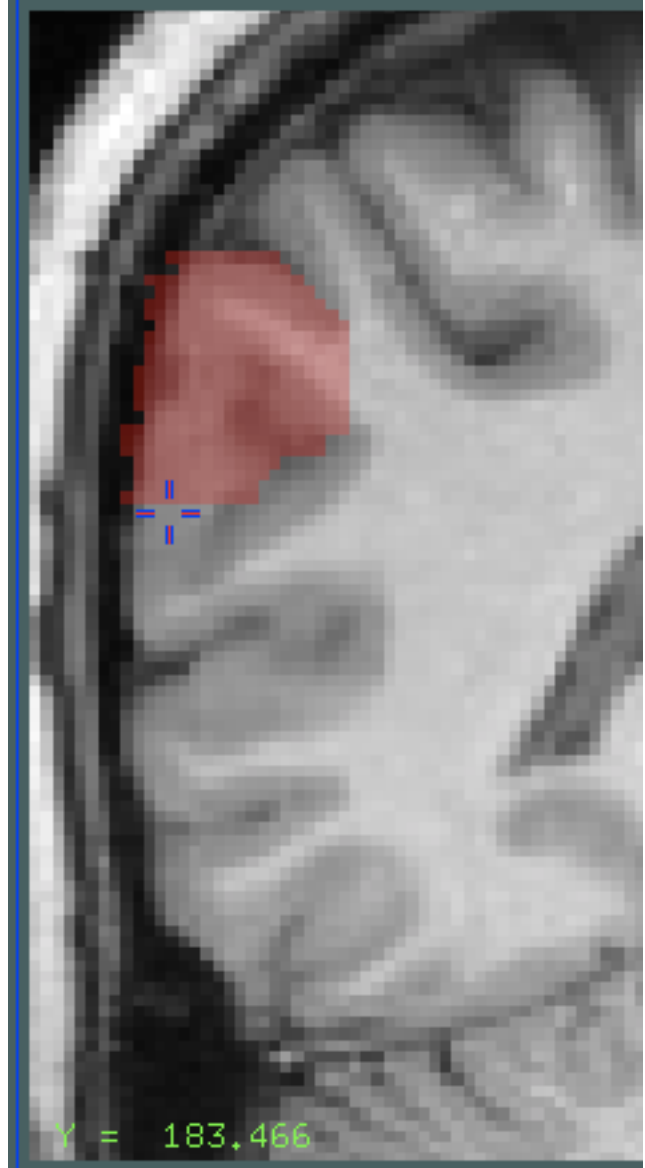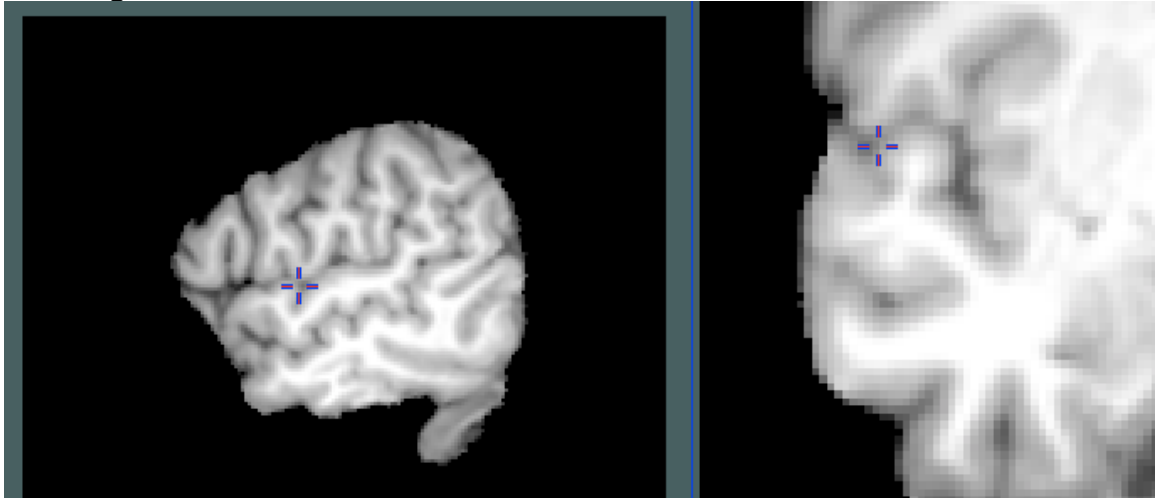
BEFORE   **AFTER**

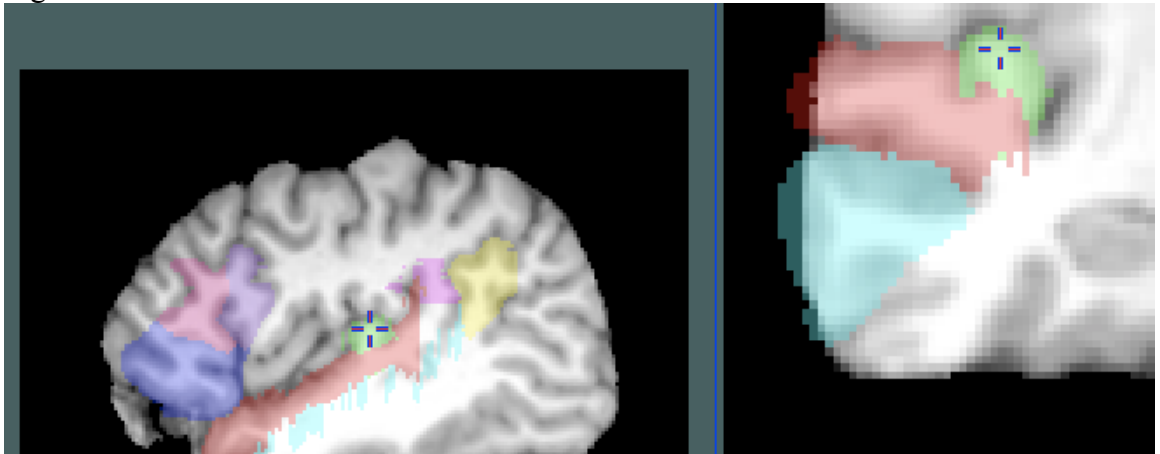Save the label (T, then W) as temp1.mnc

Heschl's Gyrus: Change to Paint Label 2 (F, then D, type 2 into X11)

1. Find Heschls' gyrus on a sagittal slice. Scroll anterior in the coronal view until you find the first slice with an indentation in the superior surface of the temporal
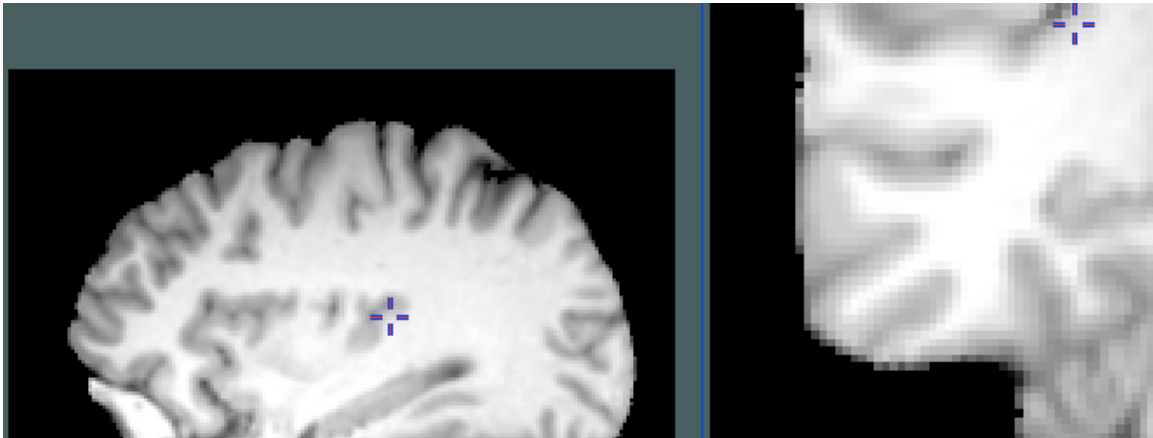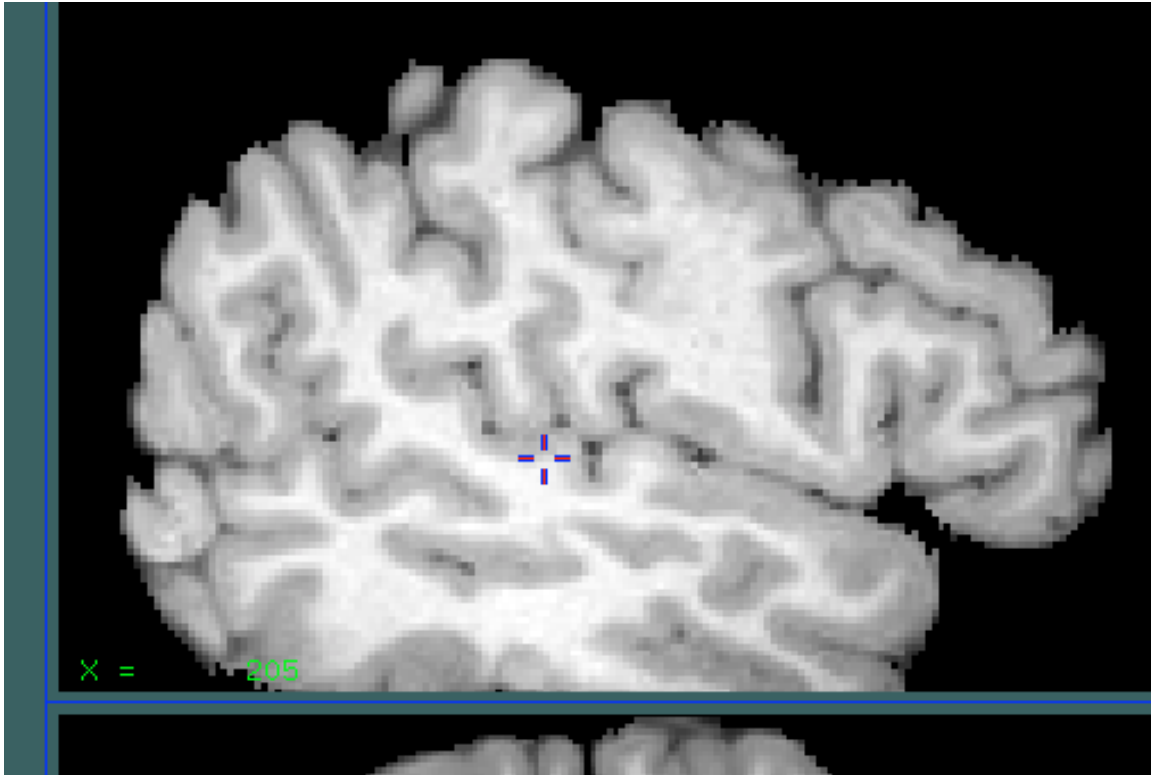
lobe. Fig 1.

2. Fill in in the coronal slice from this sulcus to the medial part of the temporal lobe.
   Fig 2.

3. Continue until there is no more discernable bump corresponding to the gyrus. Fig
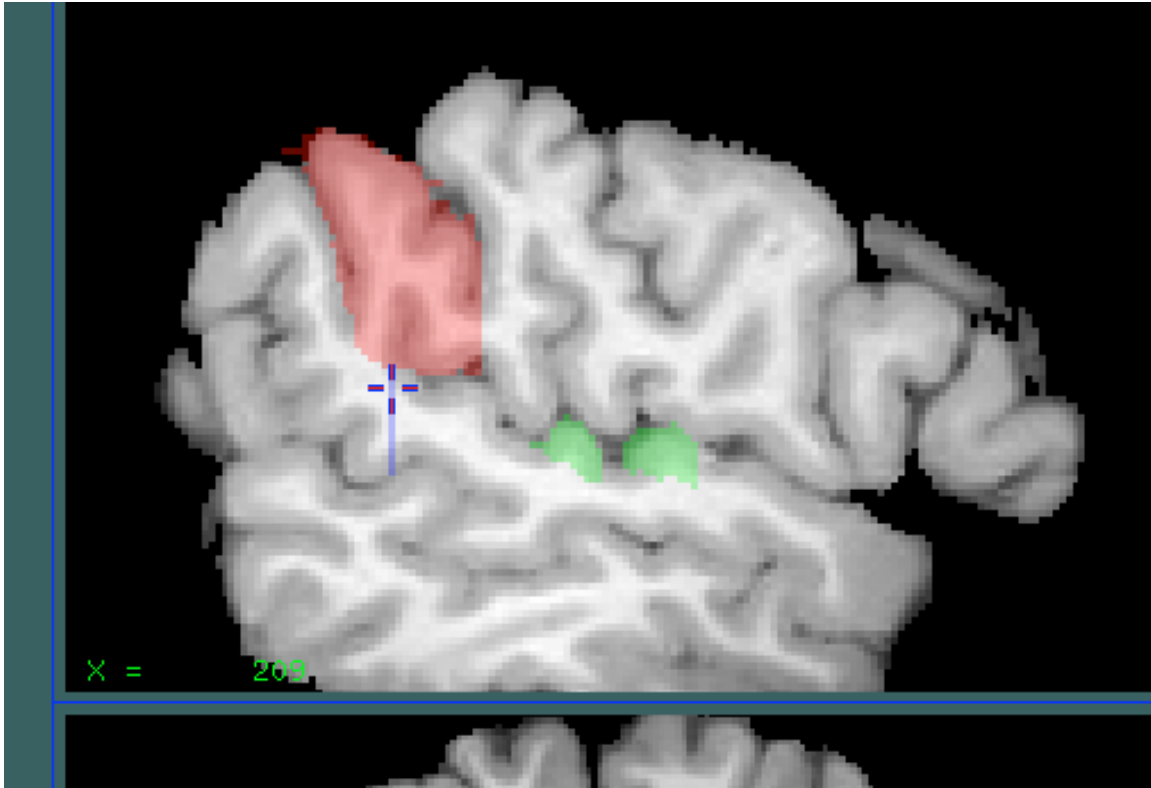   4

4. Note that Hesch's gyrus can be duplicated. If this is the case, include both gyri in
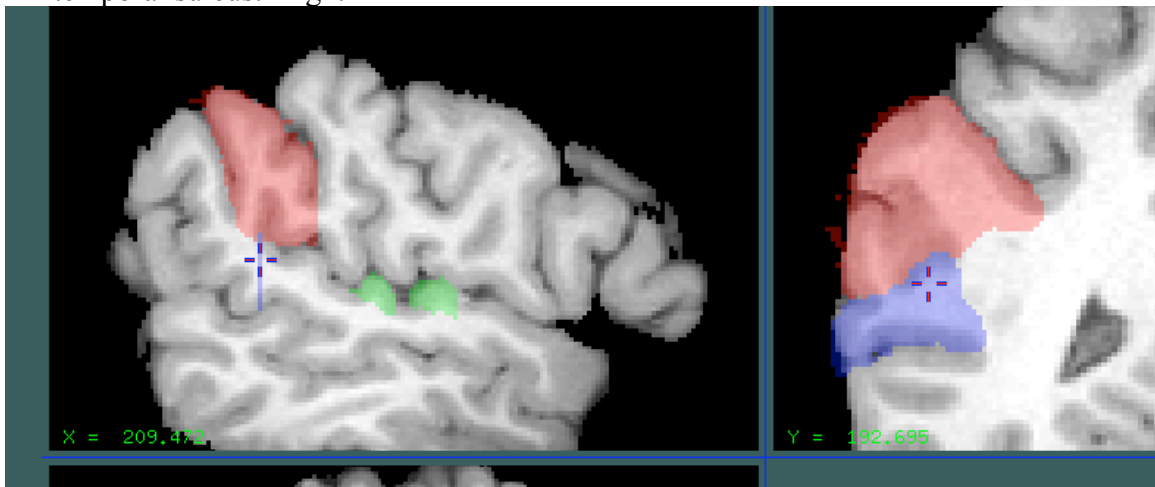   this ROI.

Save the label (T, then W) as temp2.mnc

Superior Temporal Gyrus: Change to Paint Label 3.

1. Find the posterior extent of the Sylvian fissure and draw a vertical line from this point down to the superior temporal sulcus. This will be your most posterior slice. Fig 1.
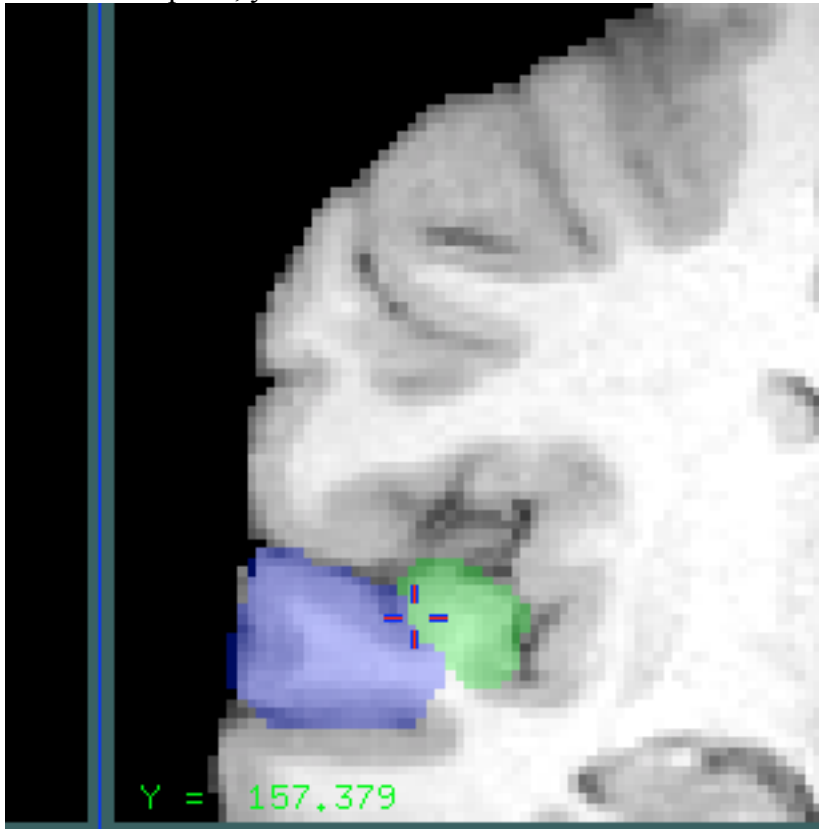
2. In the coronal view, fill in the STG between the Sylvian fissure and the superior temporal sulcus. Fig2.
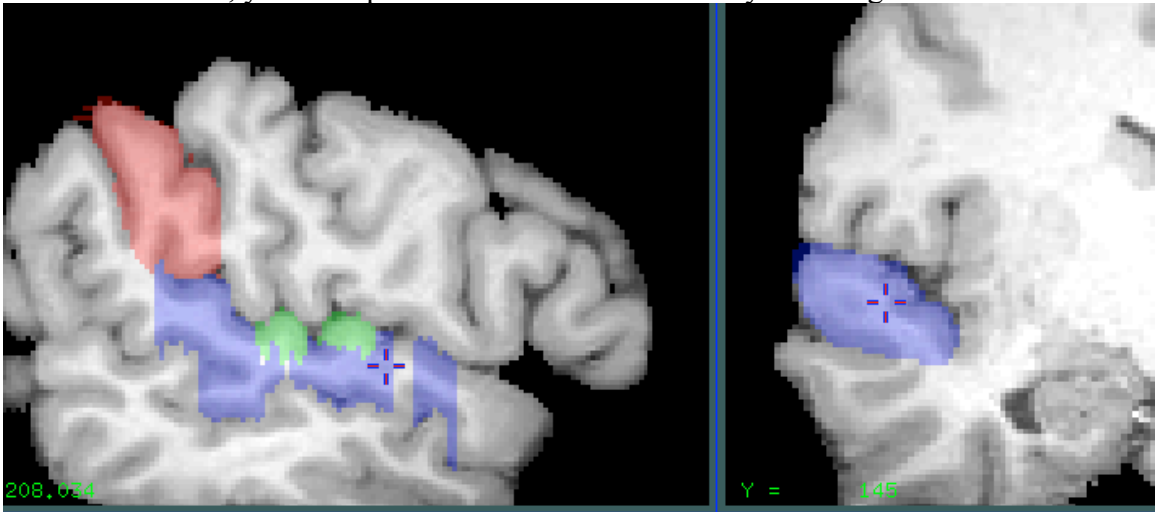

3. If the STS is discontinuous, use an imaginary line connecting segments as the inferior boundary.
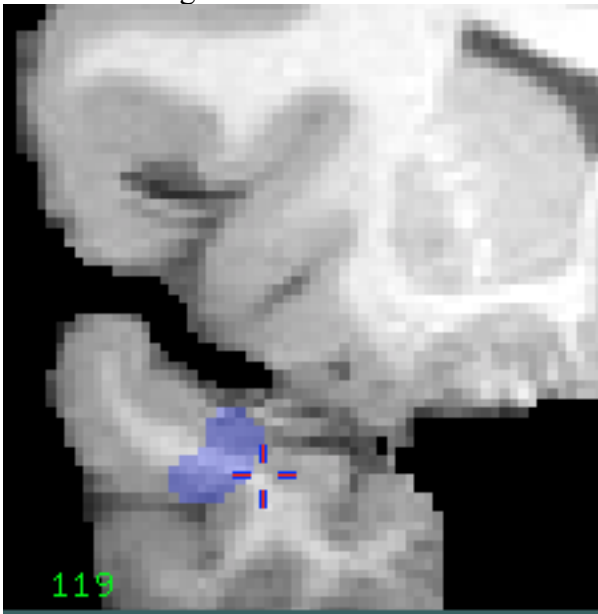4. If the STS has a parallel branch, use the more inferior branch as the inferior boundary. Fig 3.

5. At some point, you will reach the Heschl's ROI. Fill in around this. Fig 4.

6. More anterior, you'll be past Heschl's. Fill in to the Sylvian. Fig 5.
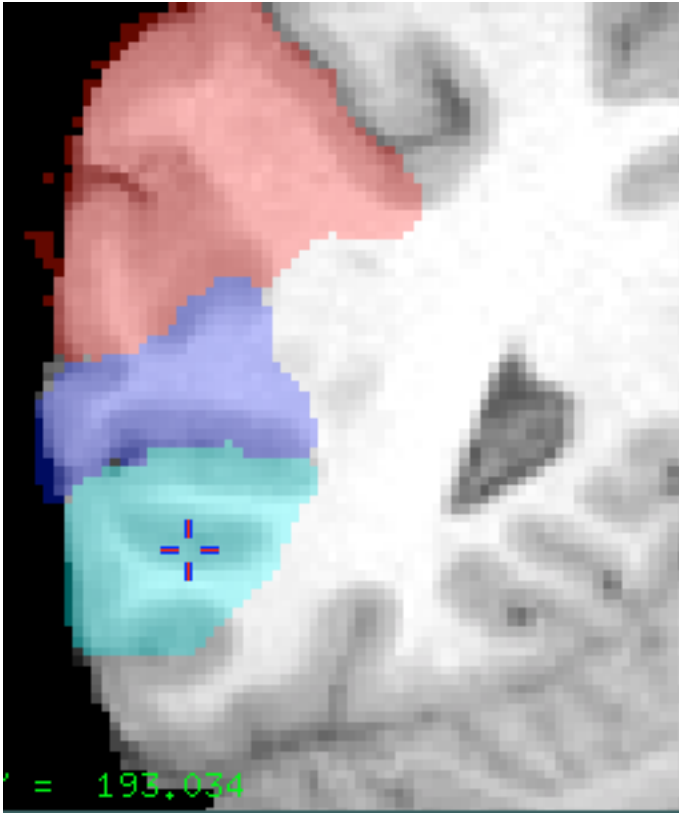

7. Very far anterior, you may need to use an imaginary line to define the medial extent. Fig 6.
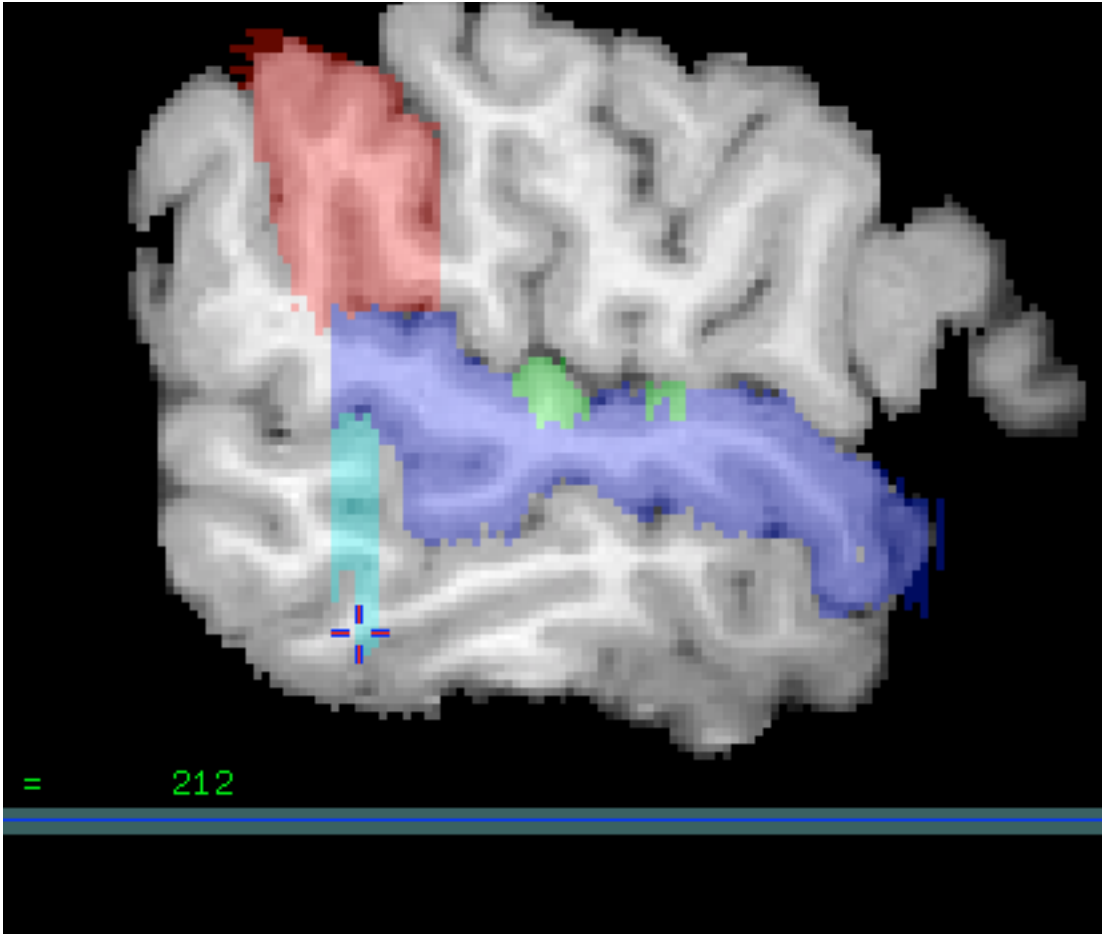

Save the label (T, then W) as temp3.mnc

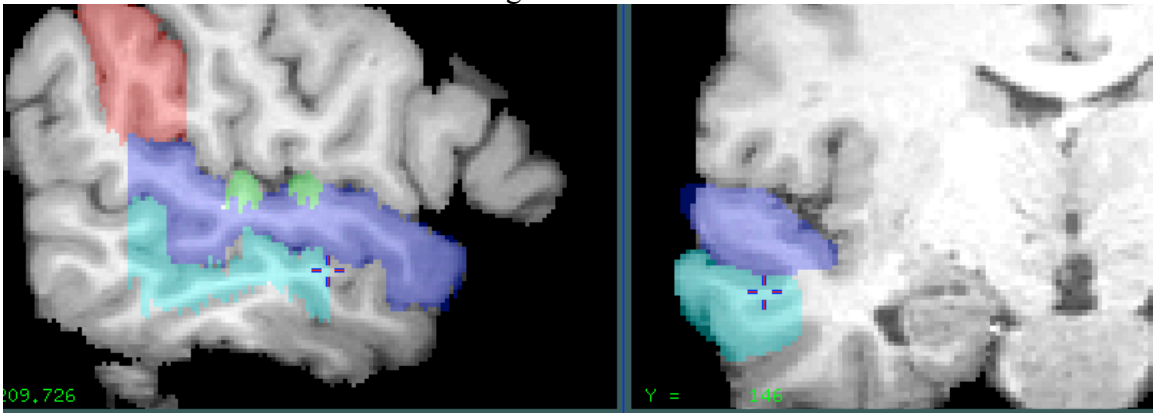Middle Temporal Gyrus: Change to Paint Label 4.

1. Go to the first slice that included STG (the posterior extent of the Sylvian fissure).
2. Draw between the STS and the inferior temporal sulcus. Fig 1.

3. The ITS is often discontinuous. Use the most superior branch possible, but use an interior branch is nothing else is present. Fig 2
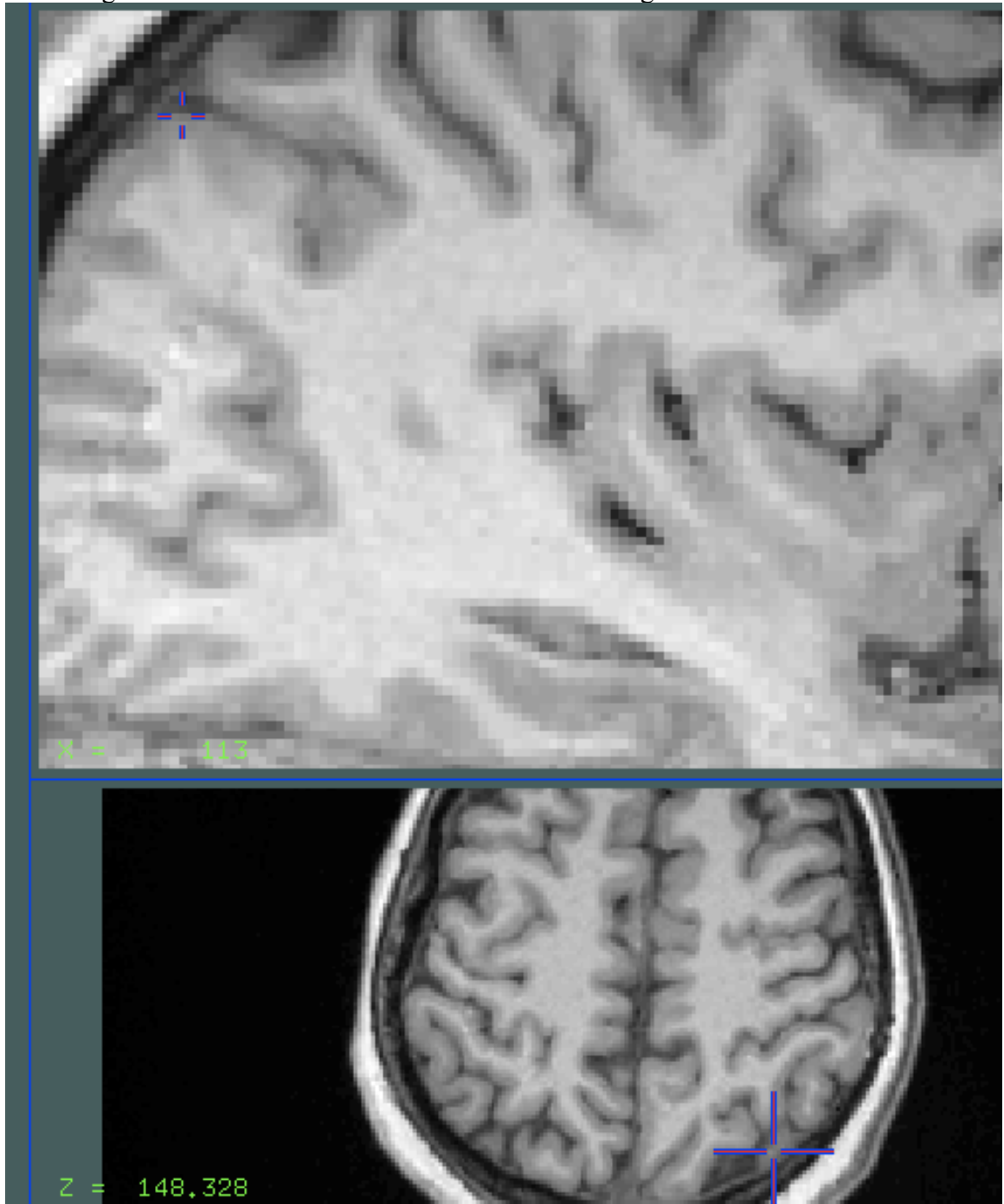
4. Fill in between the STS and ITS. Fig 3.

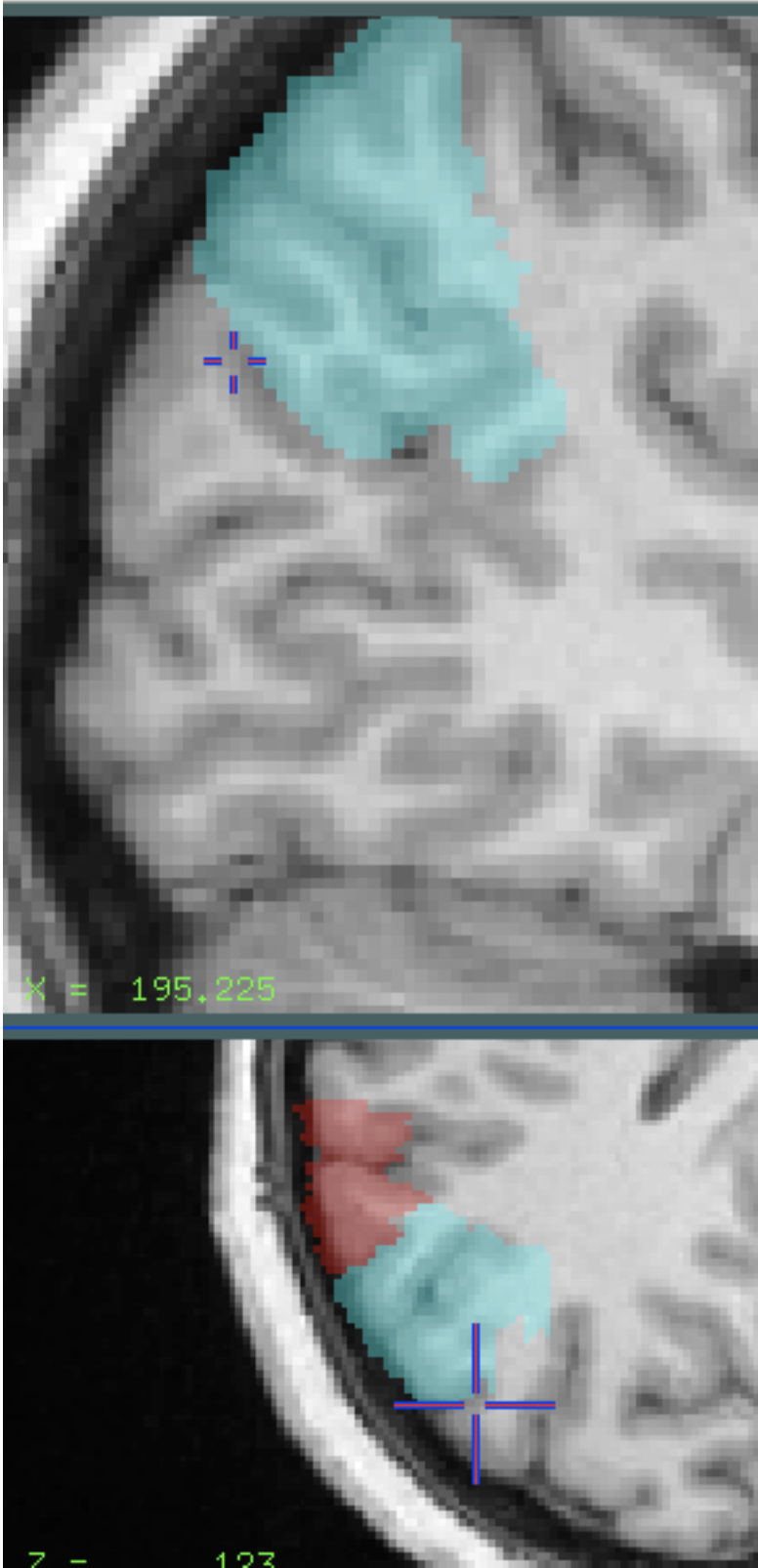Save the label (T, then W) as temp4.mnc

Angular gyrus: Change to Paint Label 5.

1. Find the most medial slice where you can still clearly see ascending branch of the superior temporal sulcus. Click at the top of the gyrus just anterior to the
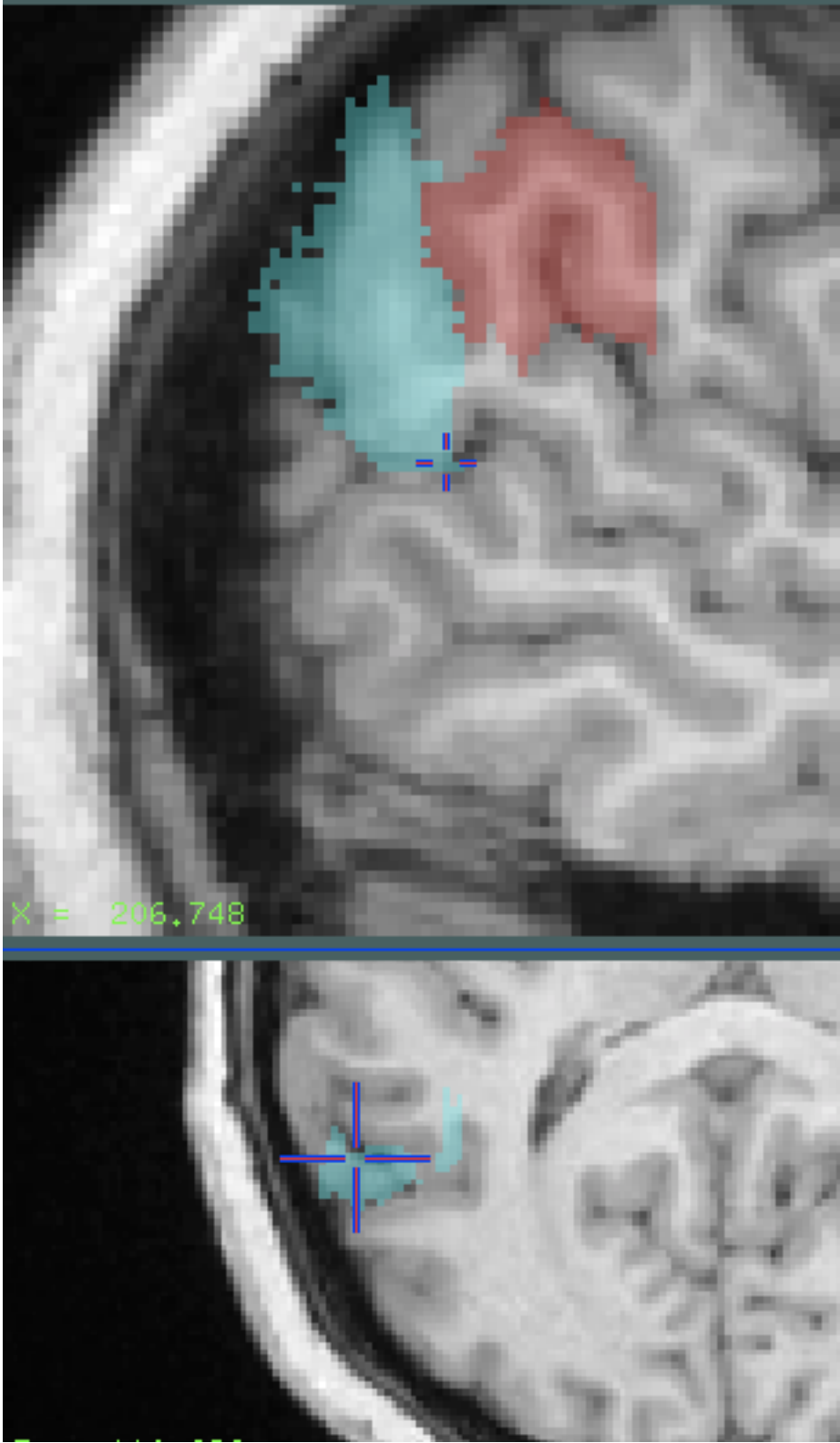
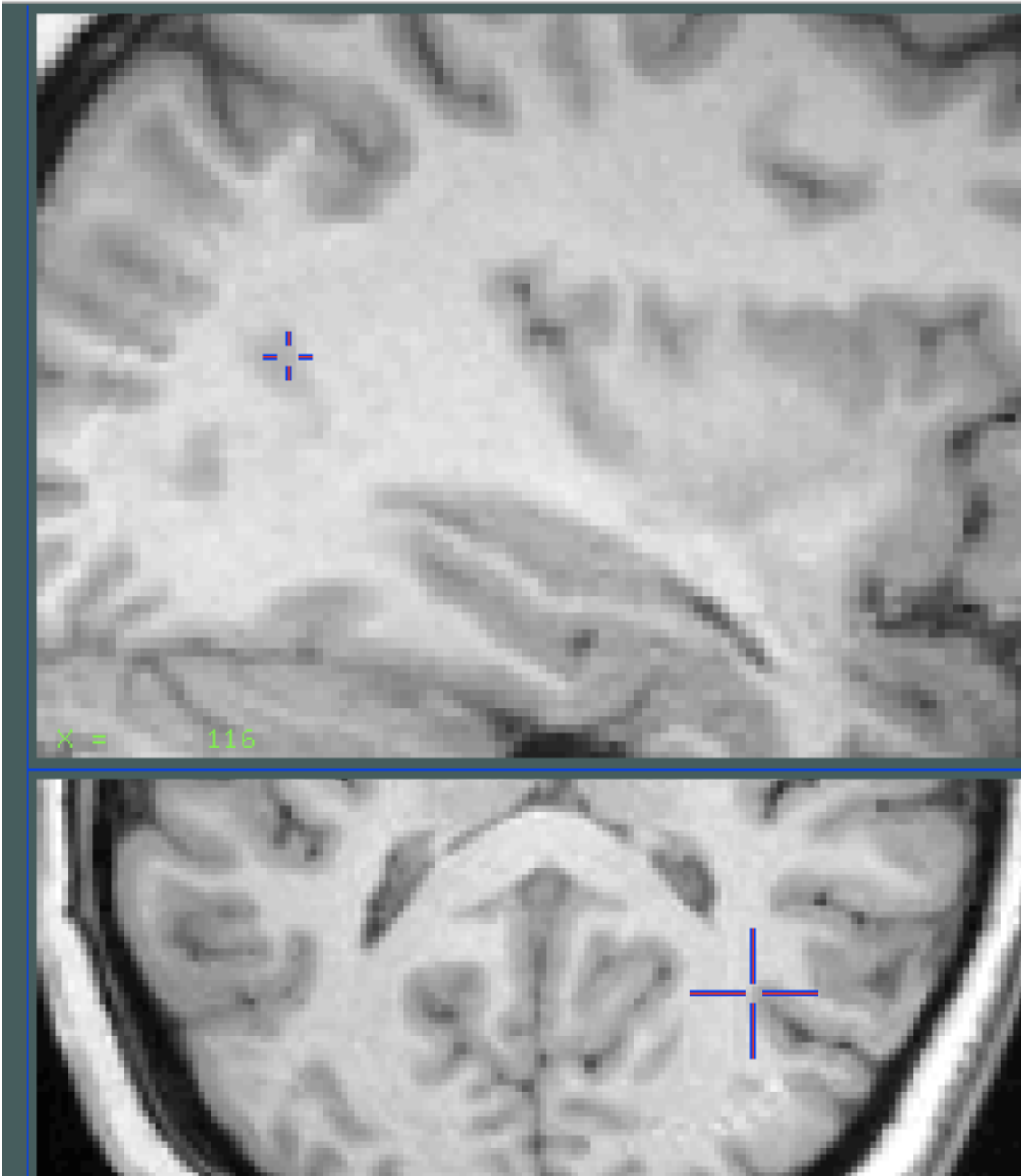ascending branch of the STS. Draw in the axial view. Fig 1.

2. Work in successively more inferior slices, using the primary intermediate as the anterior bound, and the posterior branch of the STS as the posterior bound. Fig 2.

X = 195.225

Z = 123

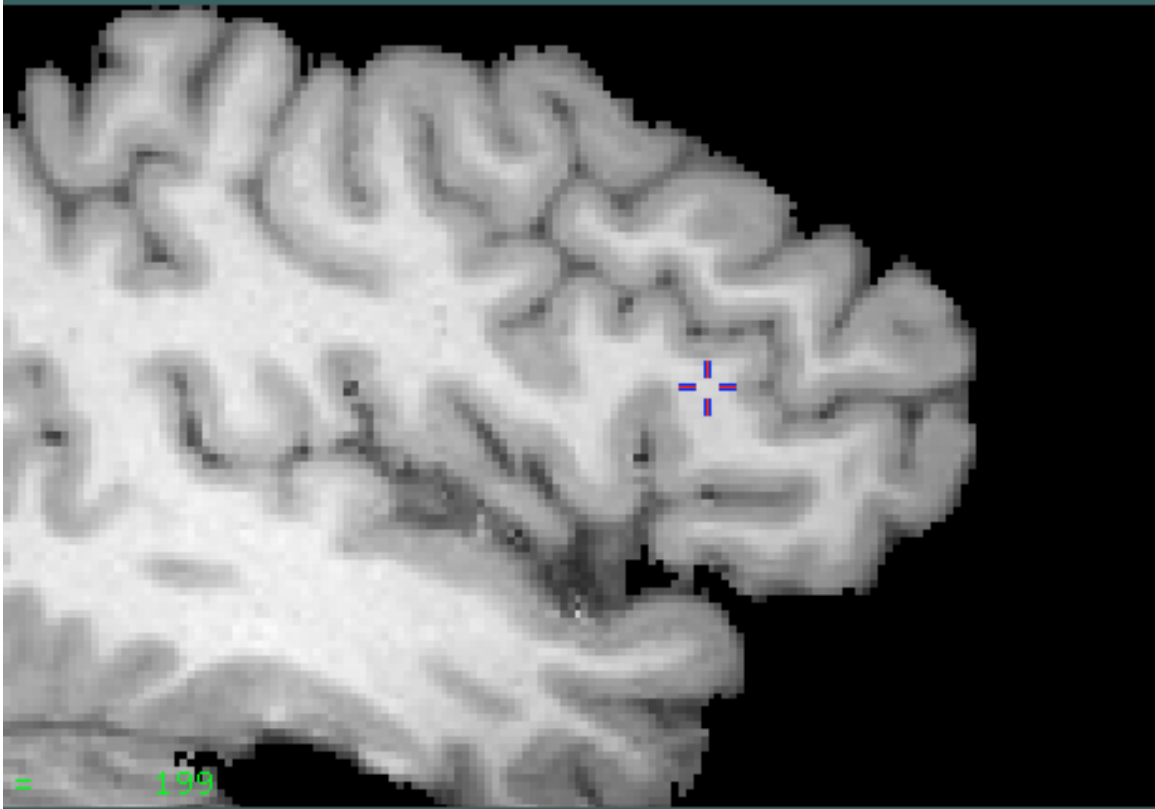3. In the sagittal view, use the STS as the inferior boundary, Fig 3.

Use the disappearance of the STS as the medial boundary, Fig 4.

Save the label (T, then W) as temp5.mnc

Inferior frontal gyrus: Change to Paint Label 6.

1. Find the IFS in the sagittal view. You should see two branches of the Sylvian fissure in the frontal lobe, and the IFS surrounding them. Fig 1.

2. Click on the intersection of the IFS and the precentral gyrus. This will be your most posterior slice. Fig 2
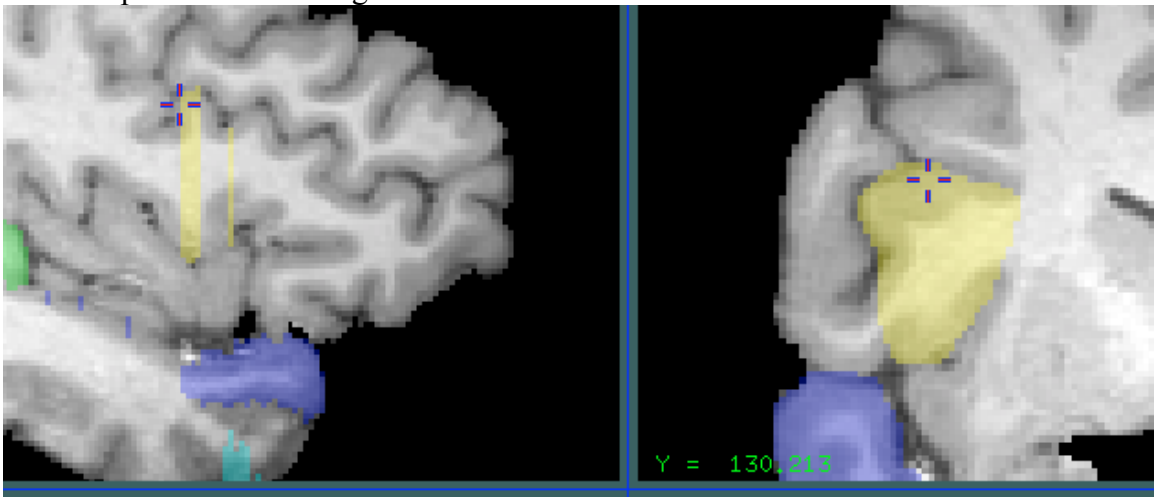
3. Continue working anterior, using the IFS as the superior boundary, and the Sylvian as the posterior boundary. Fig 3.
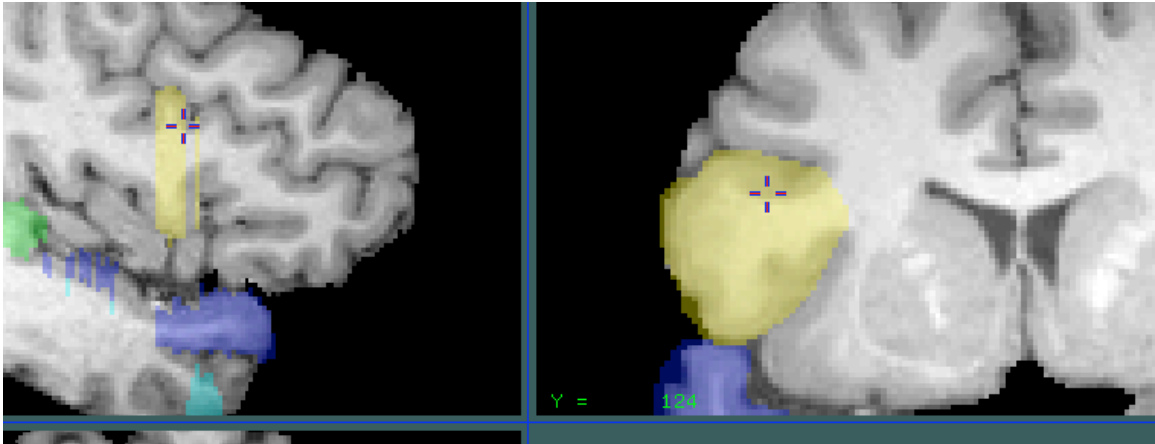
4. Use the sagittal view to help find the inferior boundary. Fig 4.