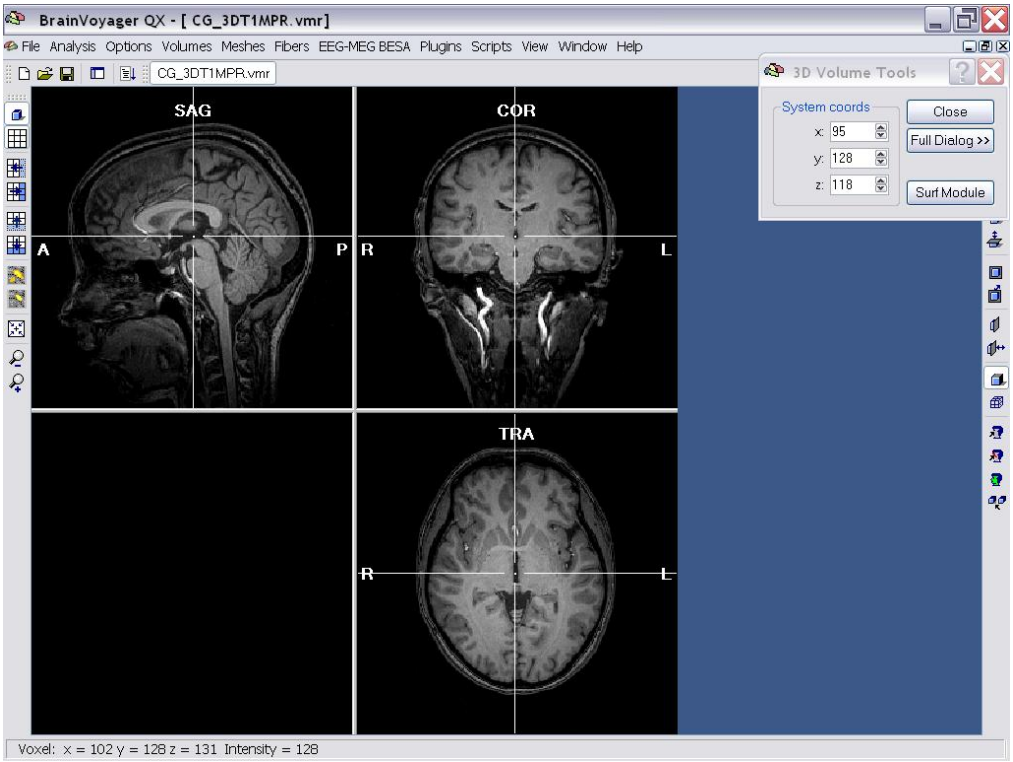
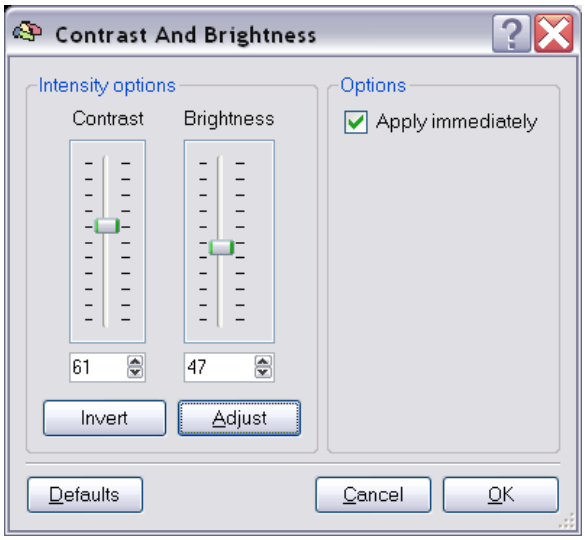
Description of steps to create an anatomically defined region of interest

BrainVoyager QX version used: 1.8.6
This is not an official Brain Innovation help document. For any questions, please contact the author via heinecke@brainvoyager.com

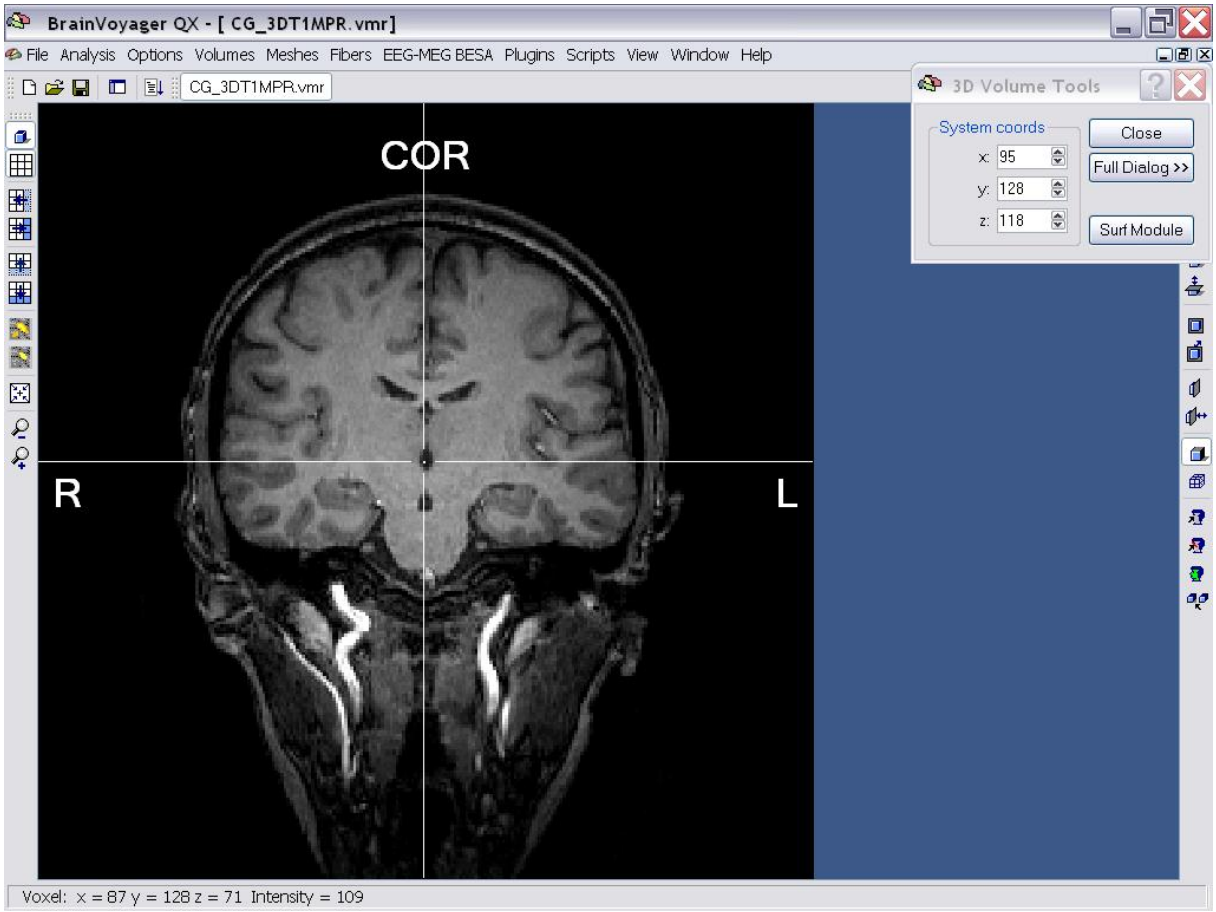
1. To start, we open a VMR project, in this case the non-normalized dataset of our sample dataset CG.



It is important to make sure that the visualisation of the anatomy is optimal. The settings can be changed in the contrast / brightness dialog in the “Options” menu. More details about this step can be found in the document “Segmentation remarks” that can be found on the BrainVoyager wiki site (http://wiki.brainvoyager.com/).

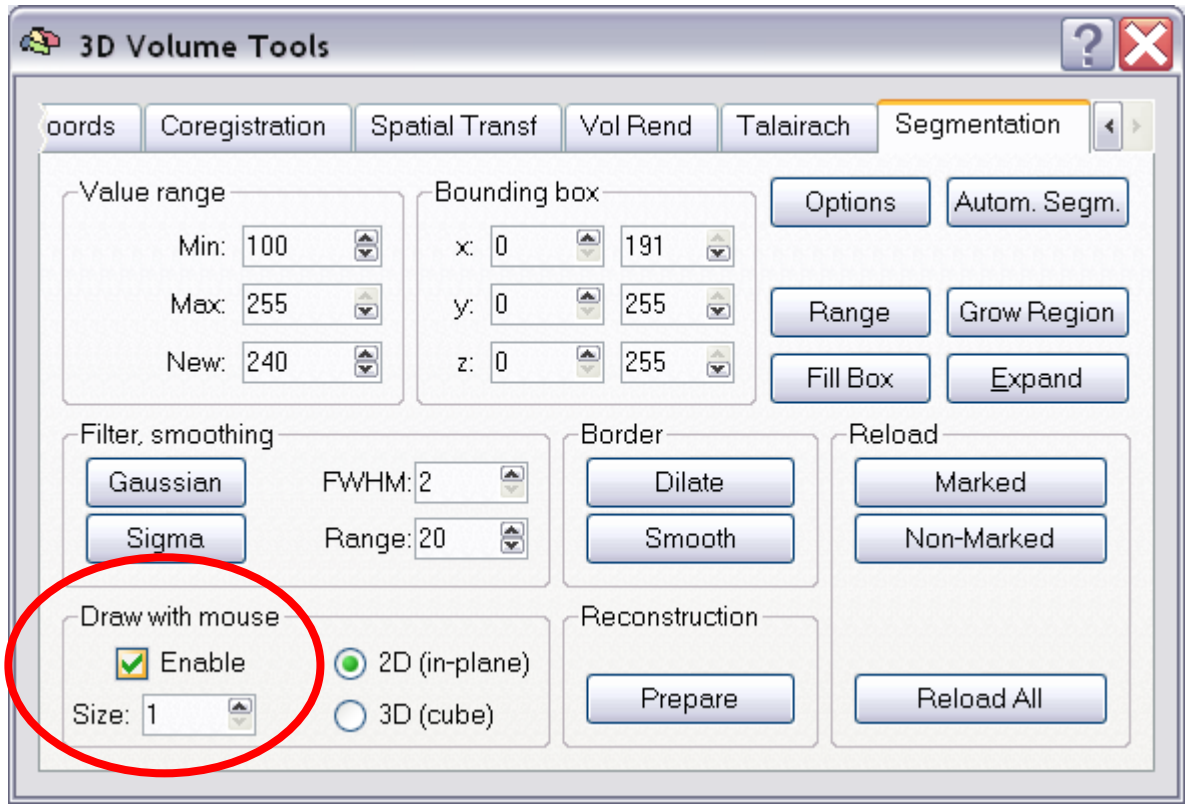


2. To zoom in into one of the standard views of the anatomical dataset, the shortcut CTRL+right mouse button can be used. Here, we zoom into the coronal view of the dataset.



To switch to any of the other views (SAG, TRA or full view), we can use the same shortcut.

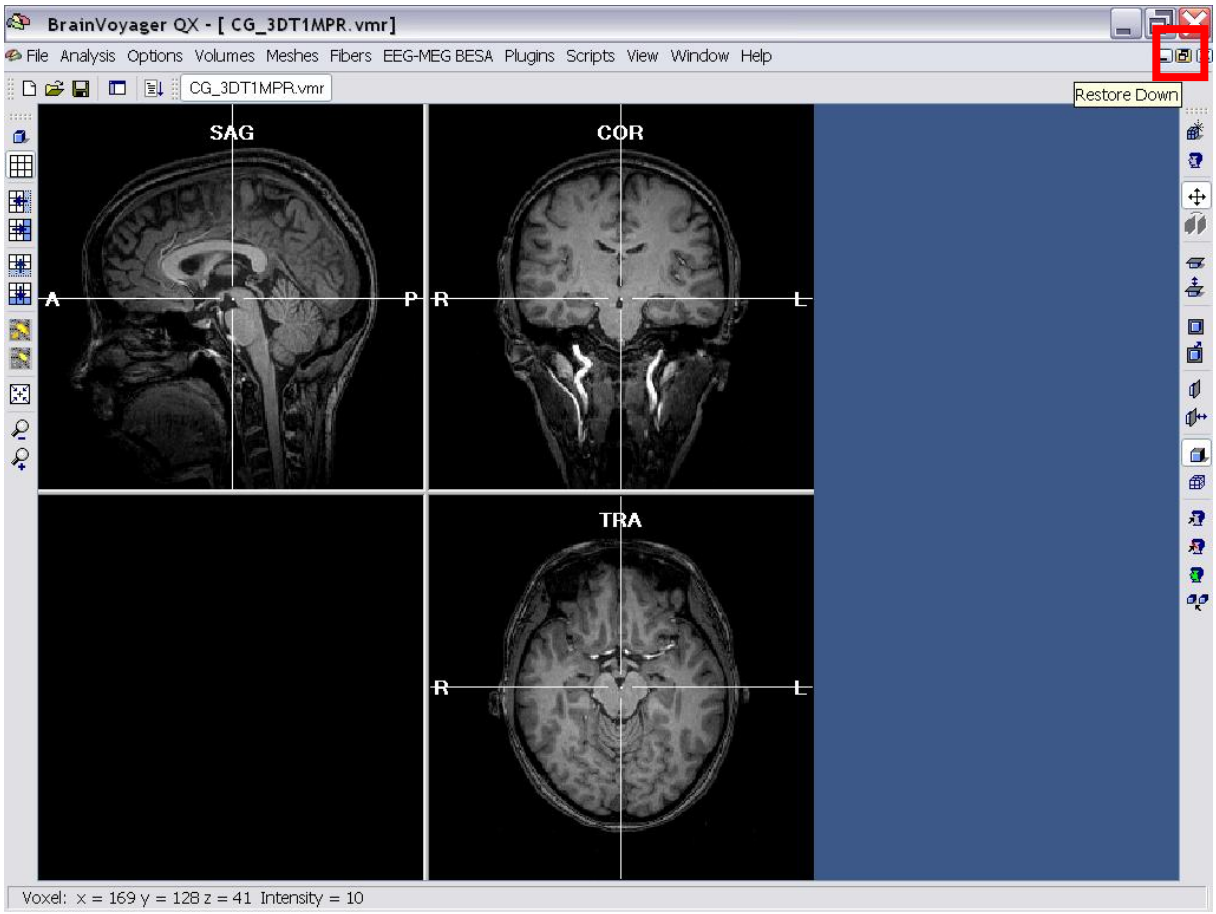
3. To define a VOI anatomically, we have to activate the “drawing” tool. It can be found on the “Segmentation” tab of the “3D volume tools”.

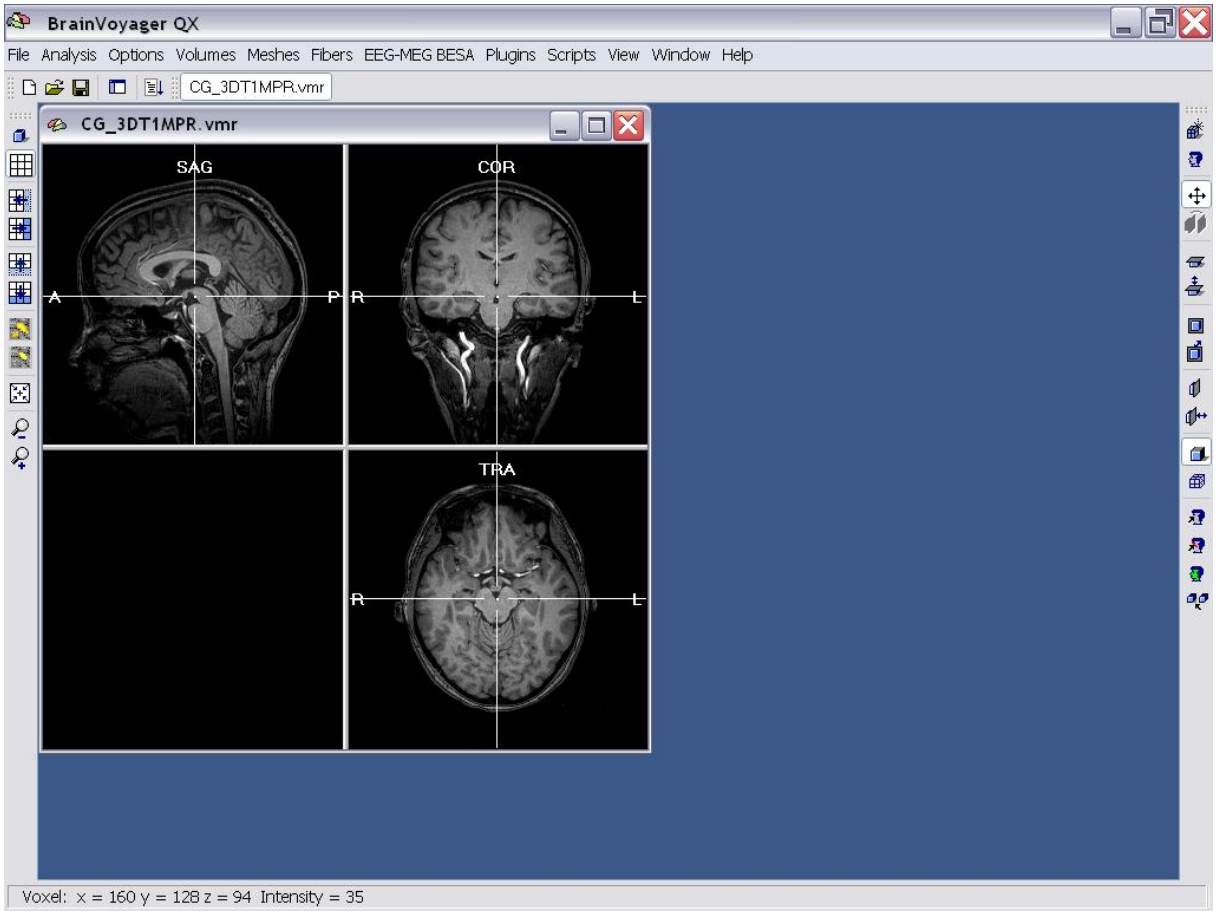


The tool works either in 2D (in-plane) or 3D mode. For very precise definition of areas, the 2D mode is optimal.

4. As soon as the drawing tool has been enabled, a mouseclick into the data means drawing, so one has to be careful when interacting with the data. The “Reload All” button on the segmentation tab allows to get rid of a wrong demarcation. Unluckily, there is no “undo” function, so reloading will always delete all of the previous selection.

One can use the “A” button to switch off the crosshair. To increase the visibility of the anatomy, it is possible to zoom in quite extremely. To be able to do this, one has to leave the “maximized document” mode that will not allow zooming. This can be done with the “restore down” button.


BrainVoyager QX - [CG_3DT1MPR.vmr]
File Analysis Options Volumes Meshes Fibers EEG-MEG BESA Plugins Scripts View Window Help
CG_3DT1MPR.vmr
Restore Down
SAG
COR
TRA
A
P
R
L
Voxel: x = 169 y = 128 z = 41 Intensity = 10


BrainVoyager QX
File Analysis Options Volumes Meshes Fibers EEG-MEG BESA Plugins Scripts View Window Help
CG_3DT1MPR.vmr
CG_3DT1MPR.vmr
SAG
COR
TRA
A
P
R
L
Voxel: x = 160 y = 128 z = 94 Intensity = 35

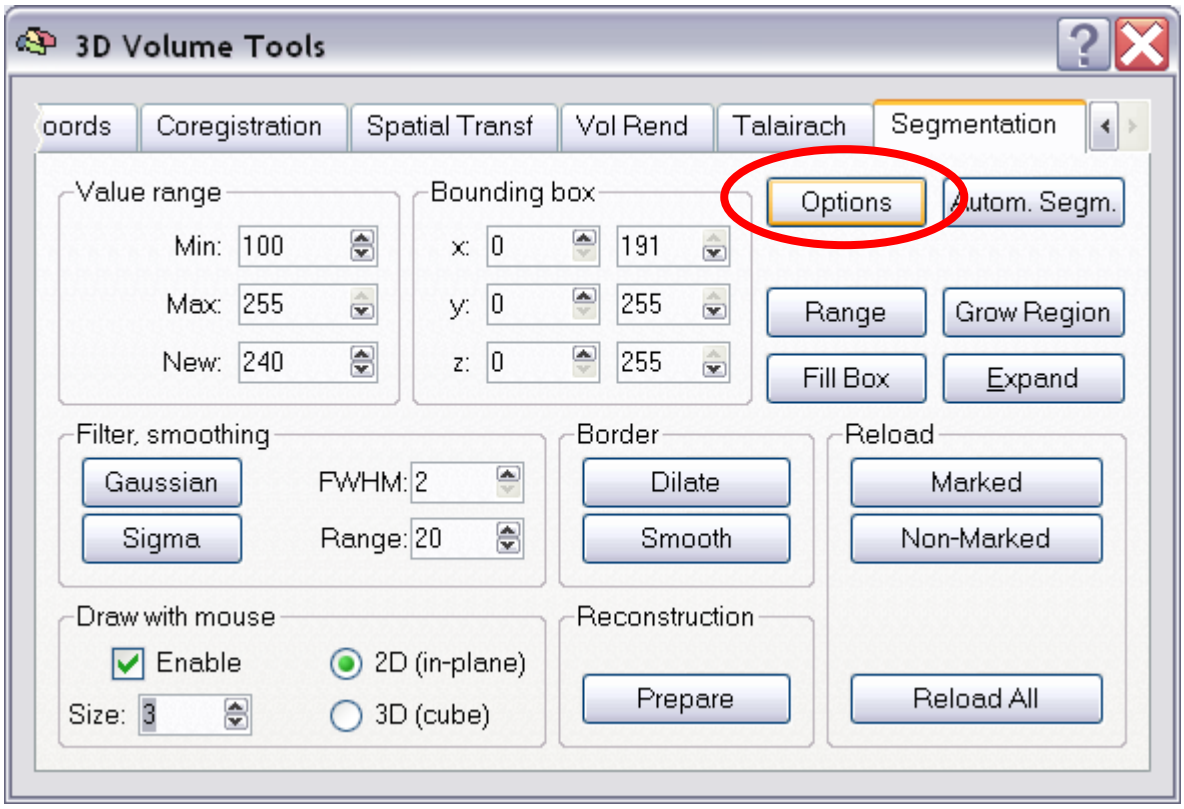
Now, the zoom icon can be used to zoom into the dataset, e.g. in combination with the visualisation of just a single slice view.

5. We can begin to demarcate a region of interest by clicking into the dataset.

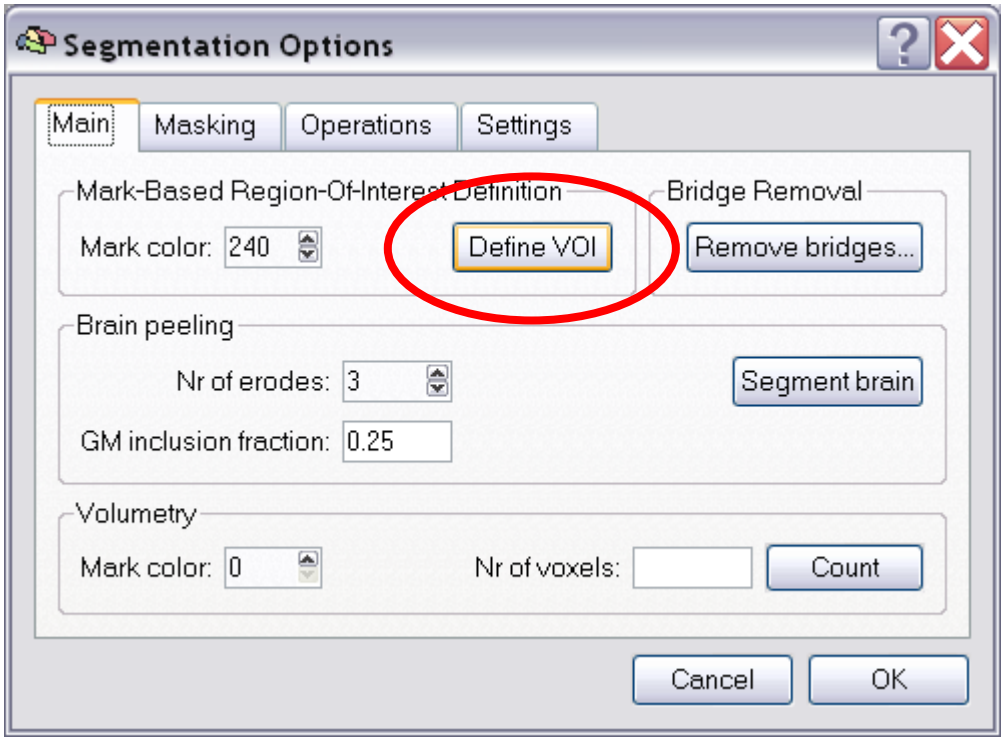
In this case, only a single slice is marked because we chose the 2D drawing mode. This can easily visualized when e.g. switching to the sagittal view (by pressing the shortcut “CTRL+T”).

6. To demarcate neighbouring slices, we switch back to the coronal view and choose the next slice (by using the arrow up / down button in combination with the Shift button). Depending on the slice view you are visualising in the moment, a different button combination is used to browse through the slices (right/left in the sagittal view and up/down in the axial view).

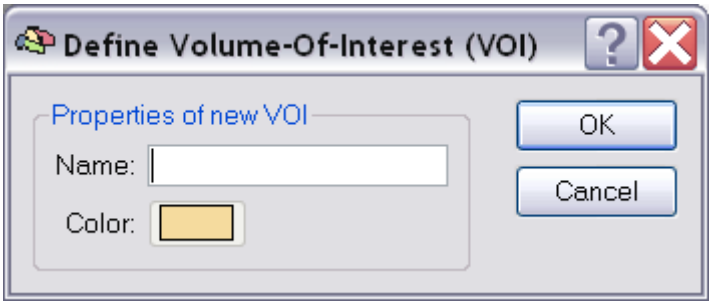
7. As soon as you have defined a suitable region of interest, you have to save it. This can be done in the “Options” of the Segmentation tab.

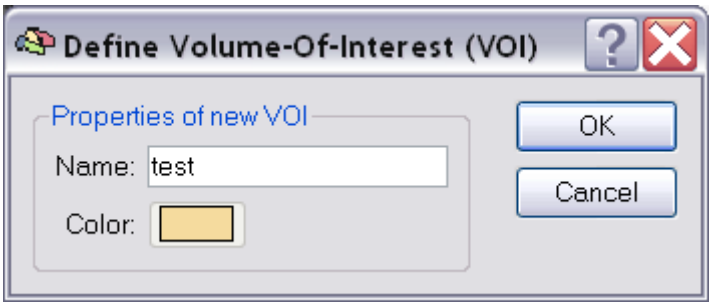


8. In the Options, you have to press the “Define VOI” button.

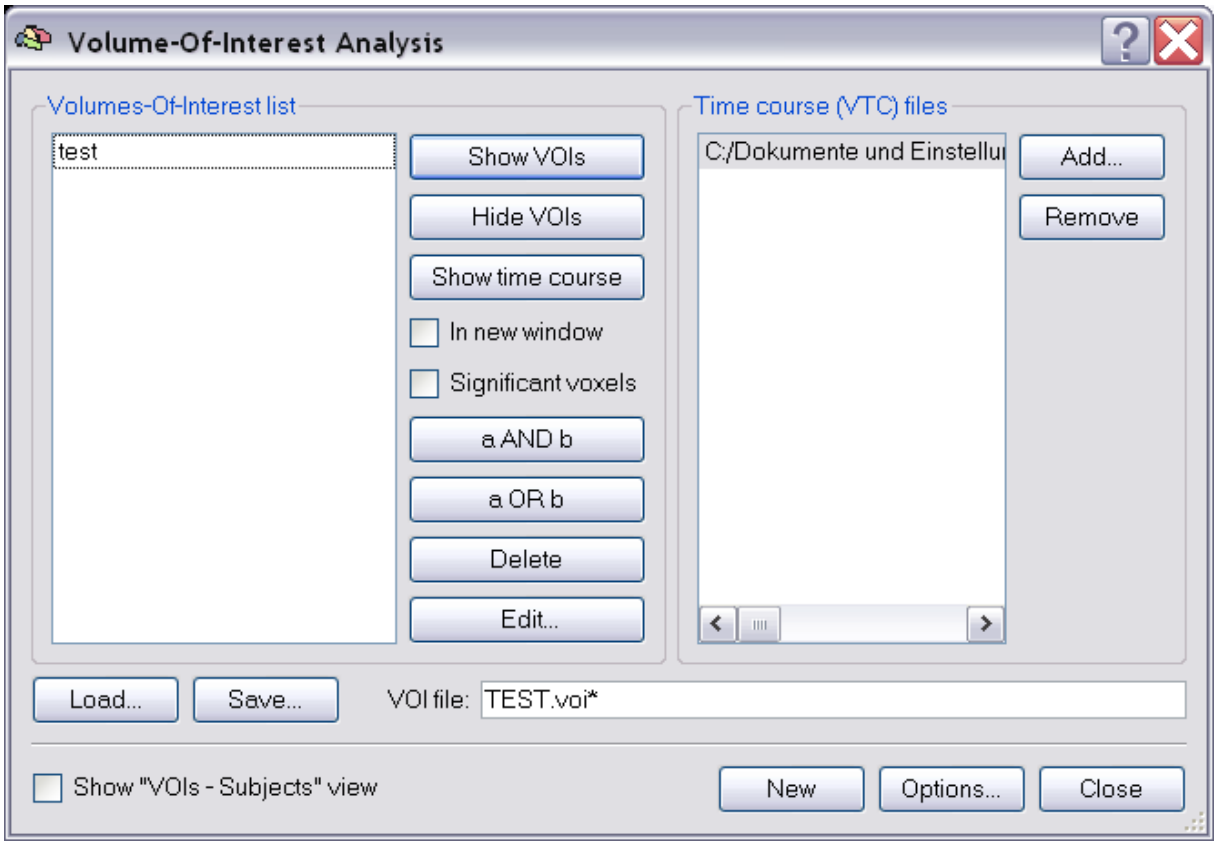


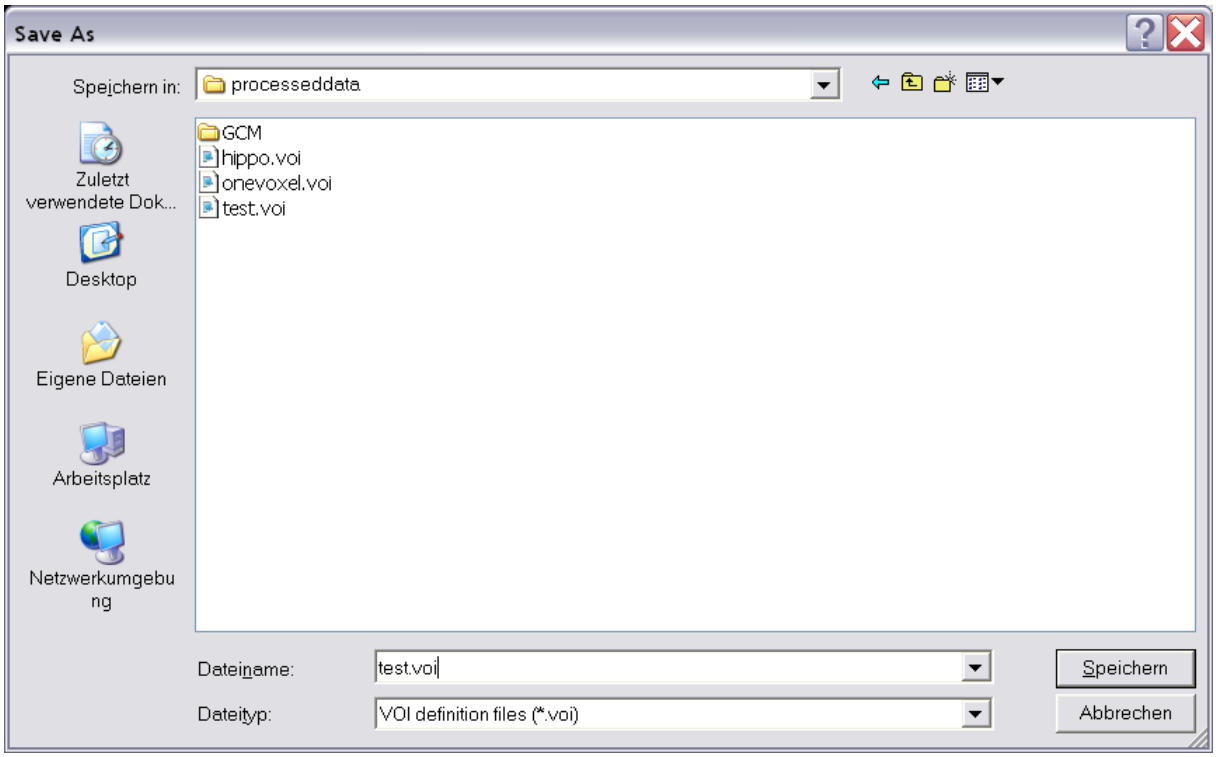
First, you have to provide a name for the new VOI:





As soon as the name has been defined, the VOI analysis dialog opens up and allows you to save the new VOI in the VOI file. If you don't save the VOI file before closing the VMR (or BV), you will loose the VOI information.





In a single VOI file, multiple VOIs / clusters can be saved.
For the detailed options of the ROI Analysis tool, please consult the correponding document (available on the wiki site http://wiki.brainvoyager.com/Statistics_in_BVQX).