



**Extended Fig. 1 | Manual Annotation Tool.** The MATLAB-tool used for generation of ground-truth, injection region removal, and correction of systematic errors at blood vessels and the brain outline. Column (a) shows a zoomed in portion of the contrast enhanced original image with the detected annotations overlayed in cyan, column (b) shows the annotator marking the missed neuron fragment in green, column (c) shows the annotator marking the *false-positives* using an arbitrary polygon, and the column (d) shows the result of the annotation after the correction corresponding to the images in column (a). Each column shows an example of WSI image annotation in the top row, while the STP annotation is shown in the bottom image.