

## Supplementary information

**Manuscript title:** Volumetric assessment of extracranial carotid artery aneurysms

**Authors:** EE de Vries<sup>a</sup>, CJHCM van Laarhoven<sup>a</sup>, HJ Kuijf, CEVB Hazenberg, JA van Herwaarden, MA Viergever, GJ de Borst

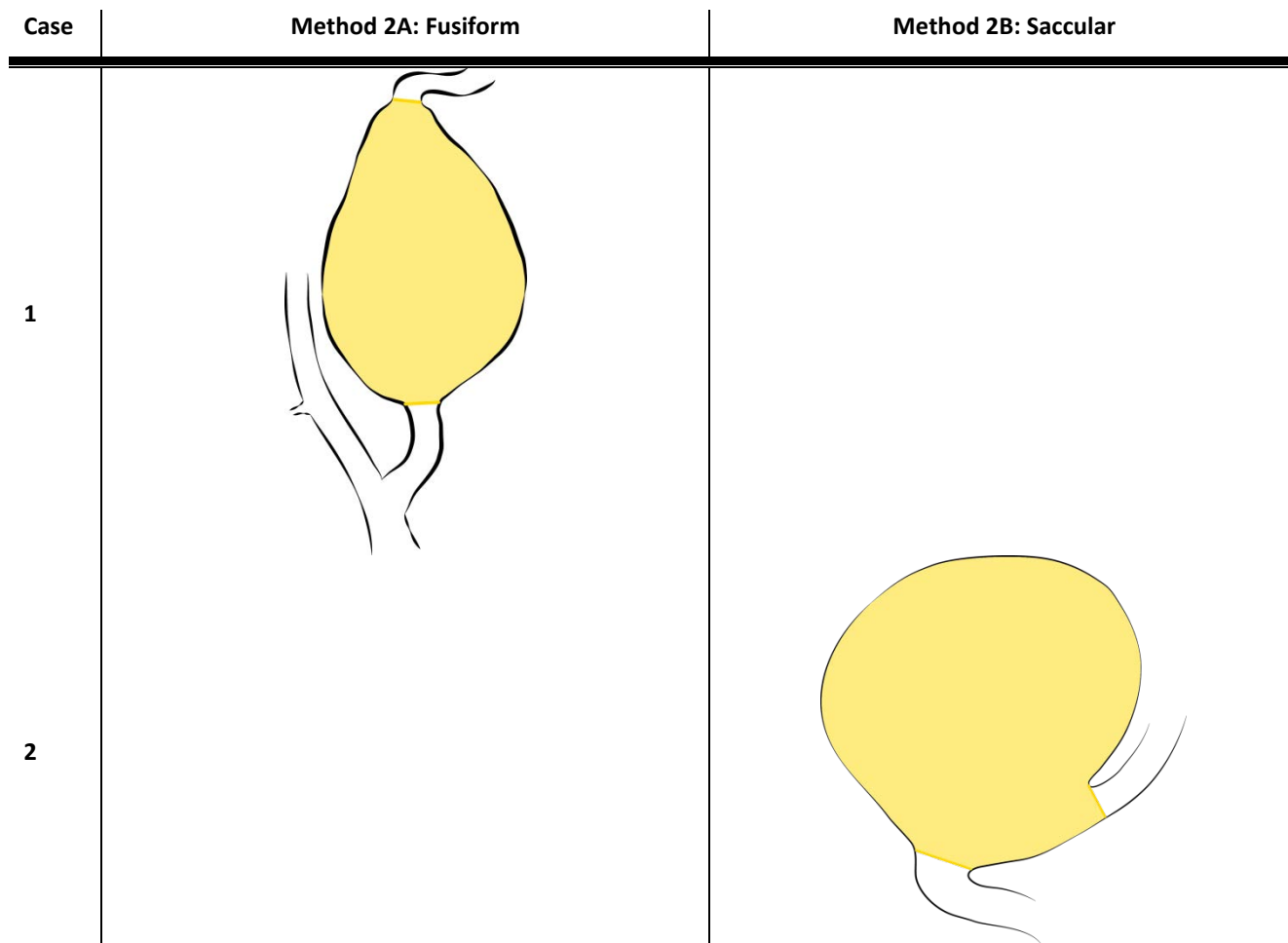
<sup>a</sup> both authors contributed equally

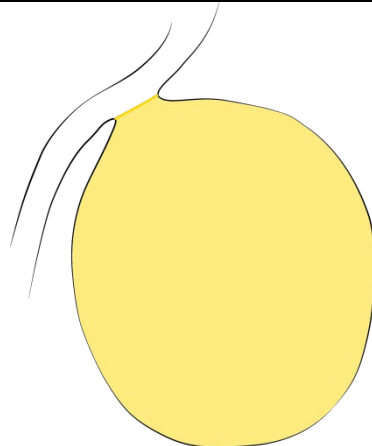
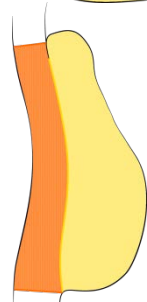
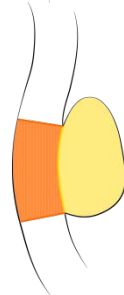
### Contents

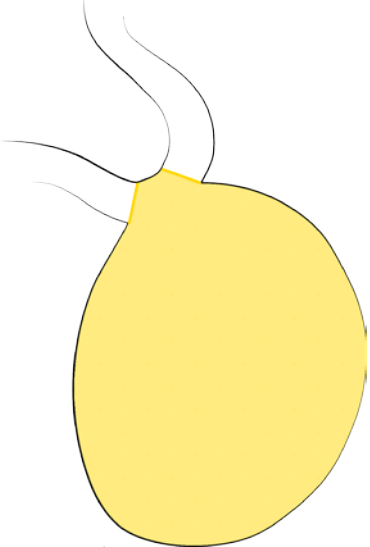
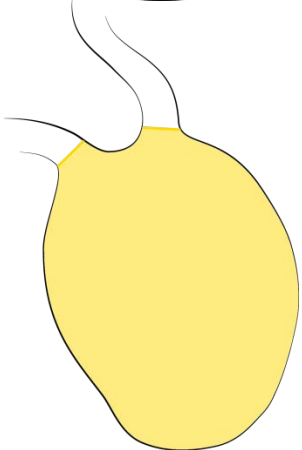
APPENDIX A: <i>schematic overview of 20 cases</i>	p. 2
APPENDIX B: <i>final 3D volume segmentations</i>	p. 11
APPENDIX C: <i>Bland-Altman plots</i>	p. 32

## APPENDIX A

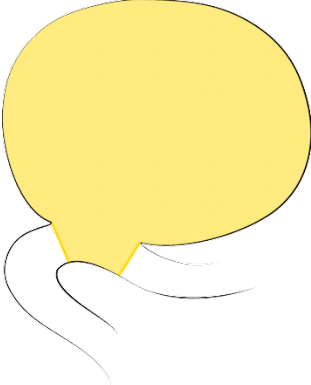
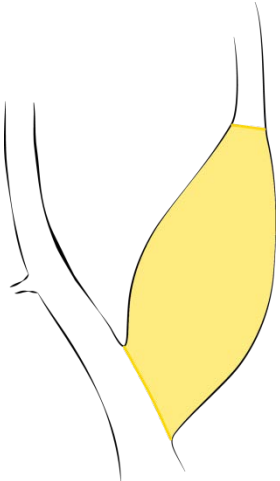
Schematic overview of the 20 cases, and subfield segmentations of each case according to measurement method 2 (the ECAA). Each case consists of 2 scans performed at different time points, adding to a total of 40 scans.



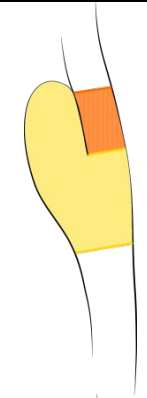
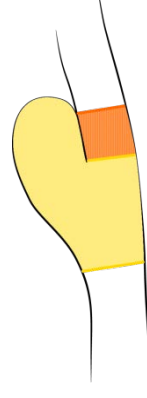
Case	Method 2A: Fusiform	Method 2B: Saccular
3		
4		
5		

Case	Method 2A: Fusiform	Method 2B: Saccular
6		
7		

Case	Method 2A: Fusiform	Method 2B: Saccular
8		
9		

Case	Method 2A: Fusiform	Method 2B: Sacular
10		
11		

Case	Method 2A: Fusiform	Method 2B: Sacular
12		
13		
14		

Case	Method 2A: Fusiform	Method 2B: Saccular
15		 A diagram of a hand with a yellow fusiform shape and an orange saccular shape.
16		 A diagram of a hand with a yellow fusiform shape and an orange saccular shape.

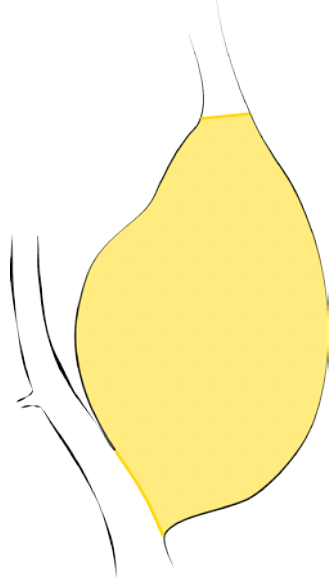


Case

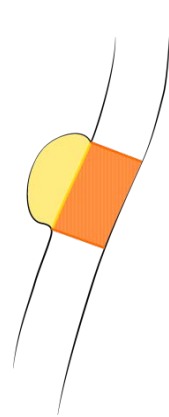
Method 2A: Fusiform

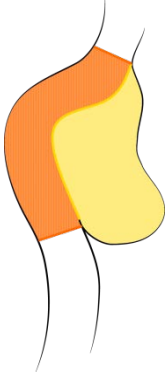
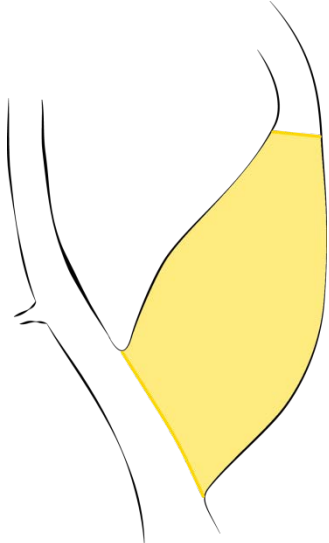
Method 2B: Saccular

17



18



Case	Method 2A: Fusiform	Method 2B: Saccular
19		
20		

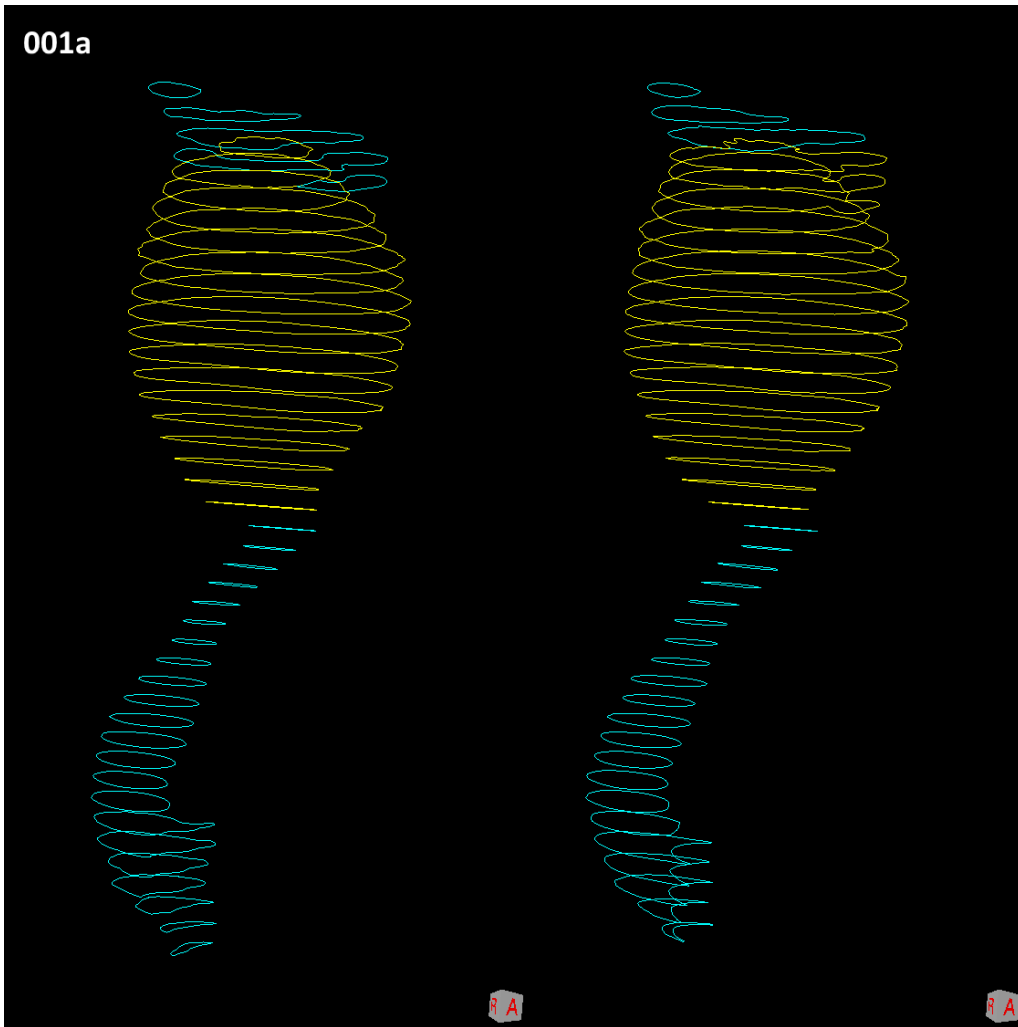
## APPENDIX B

Final 3D volume segmentations of 20 cases. Each case consists of  $a$  and  $b$ , indicating the paired scans of the same case performed at different time points. In each scan, the segmentation of observer 1 is shown on the left, the segmentation of observer 2 on the right.

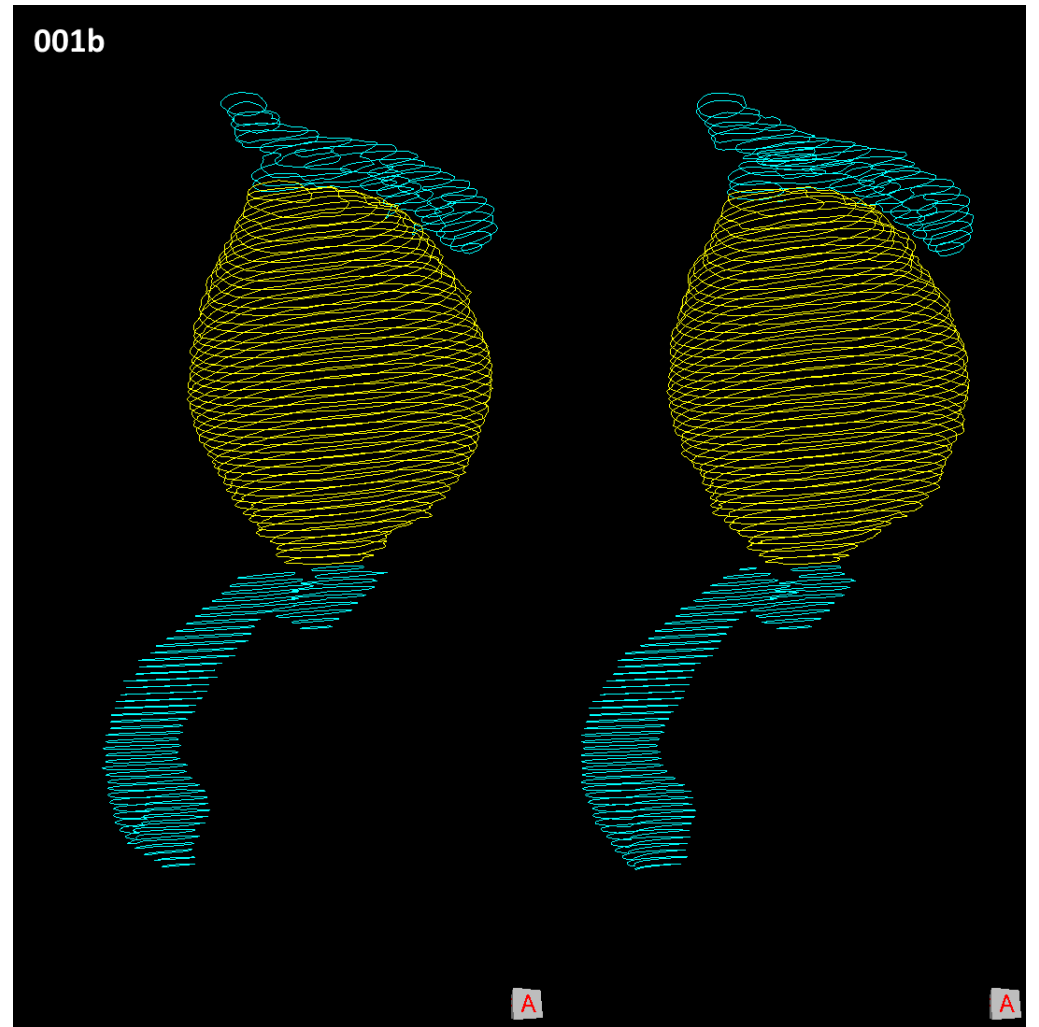
Color coding of subfields:

- only vessel = blue.
- aneurysm sac = yellow.
- vessel adjacent to aneurysm sac = orange.

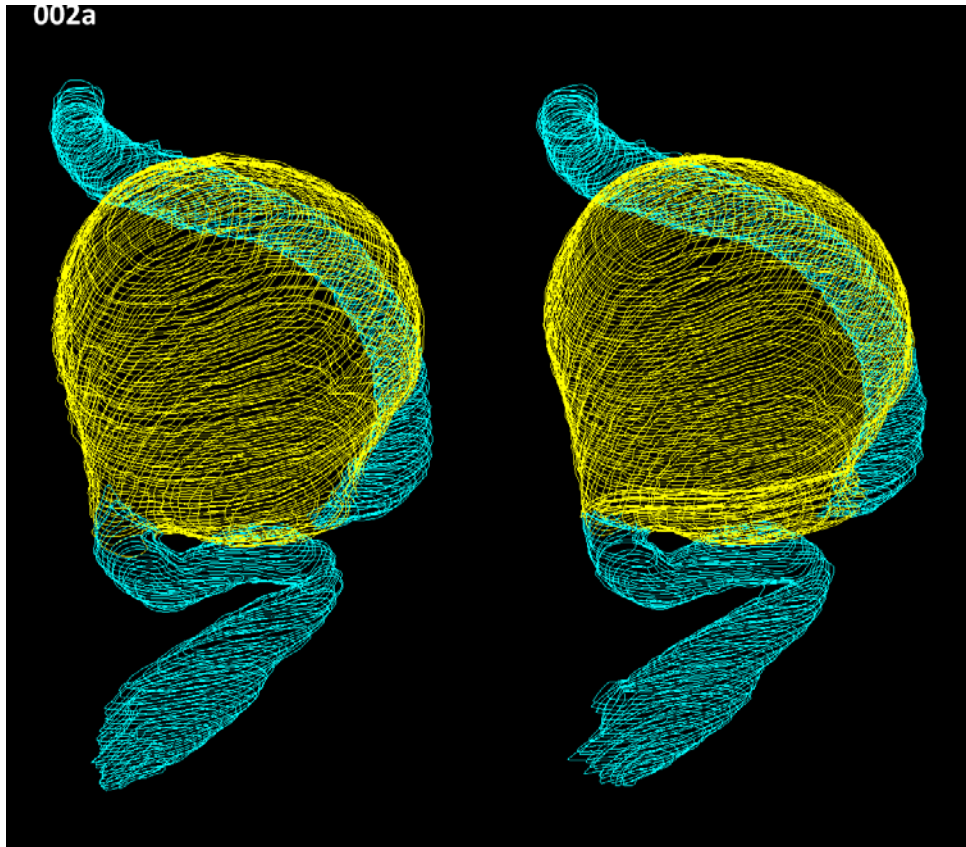
Case 001a



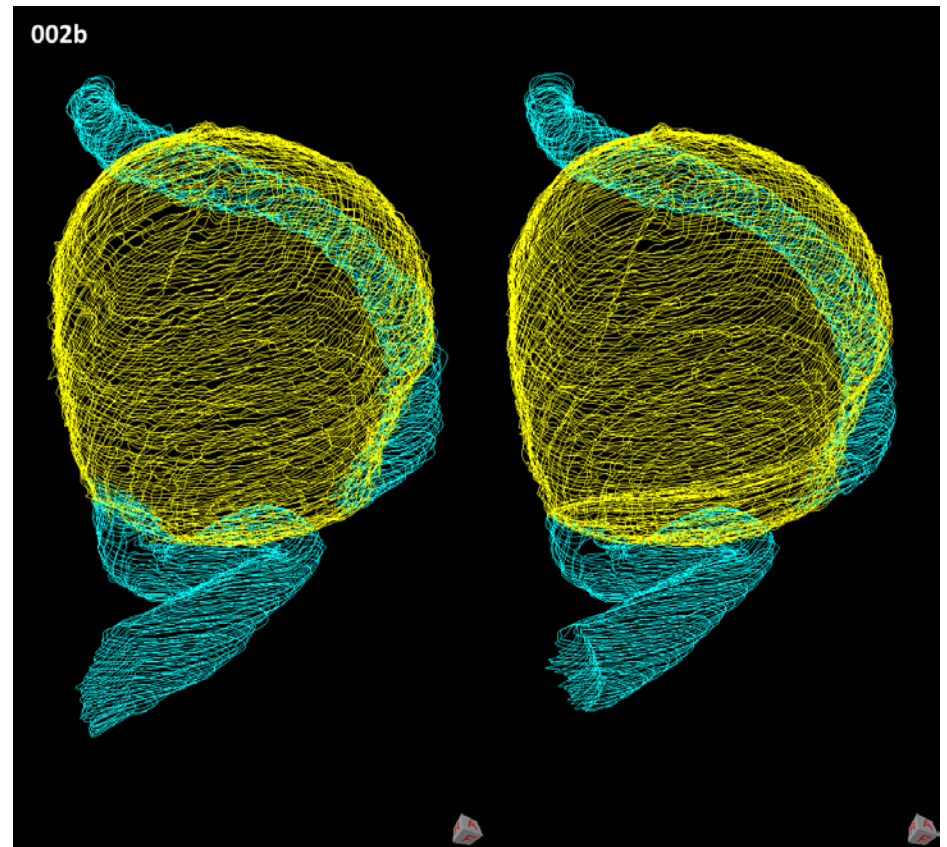
Case 001b



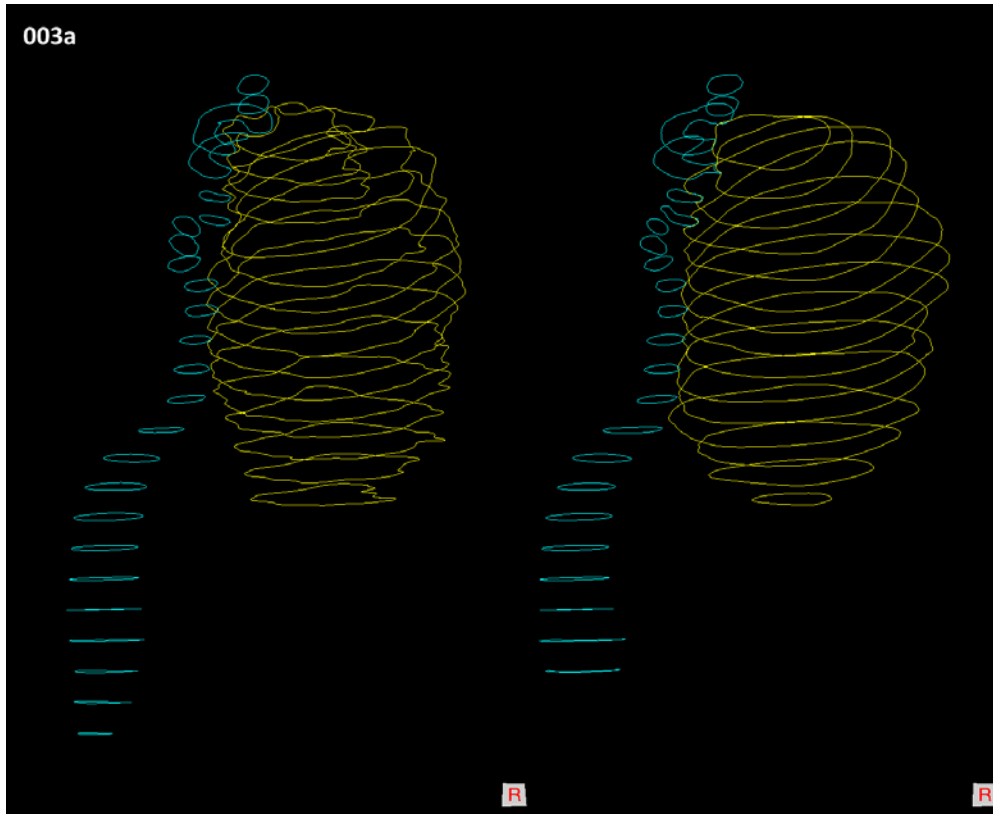
Case 002a



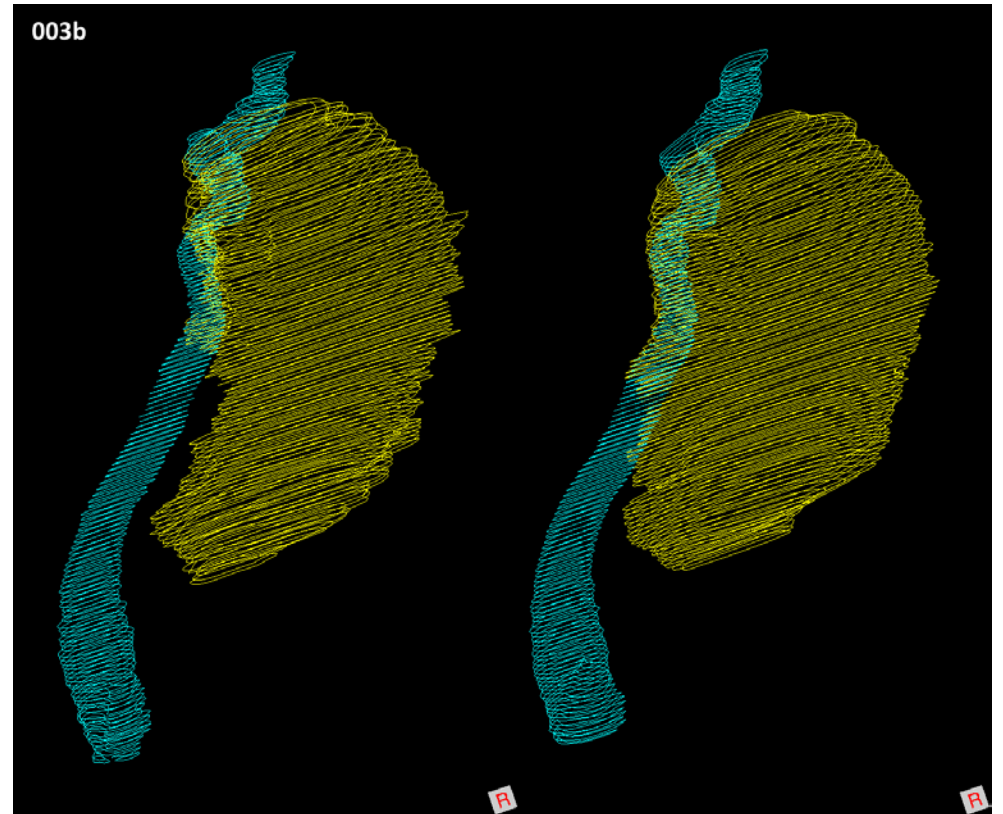
Case 002b



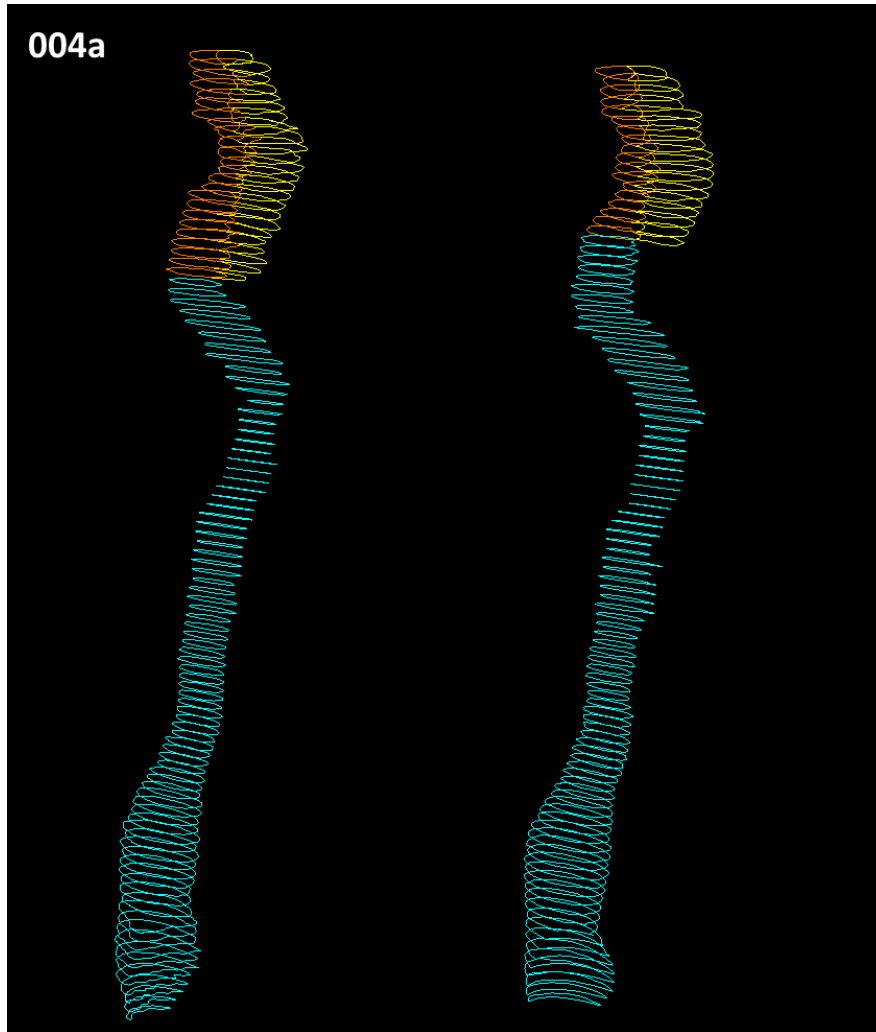
Case 003a



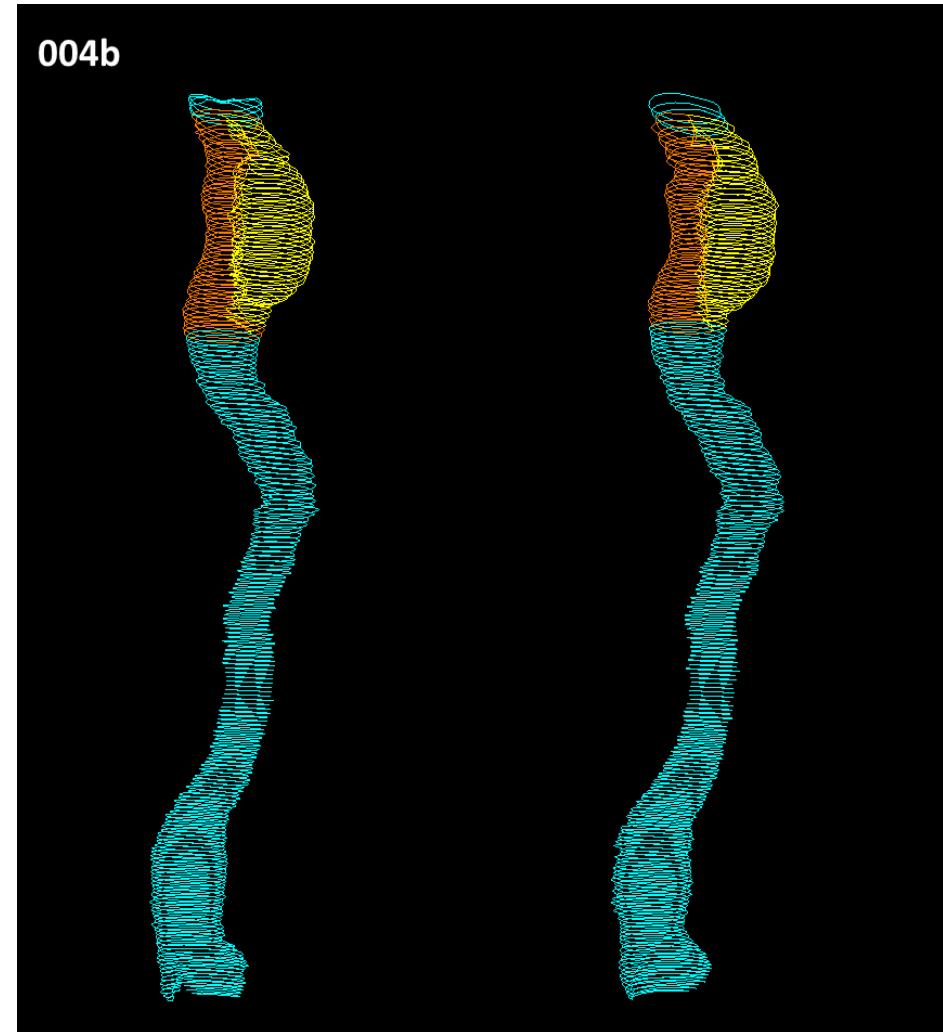
Case 003b



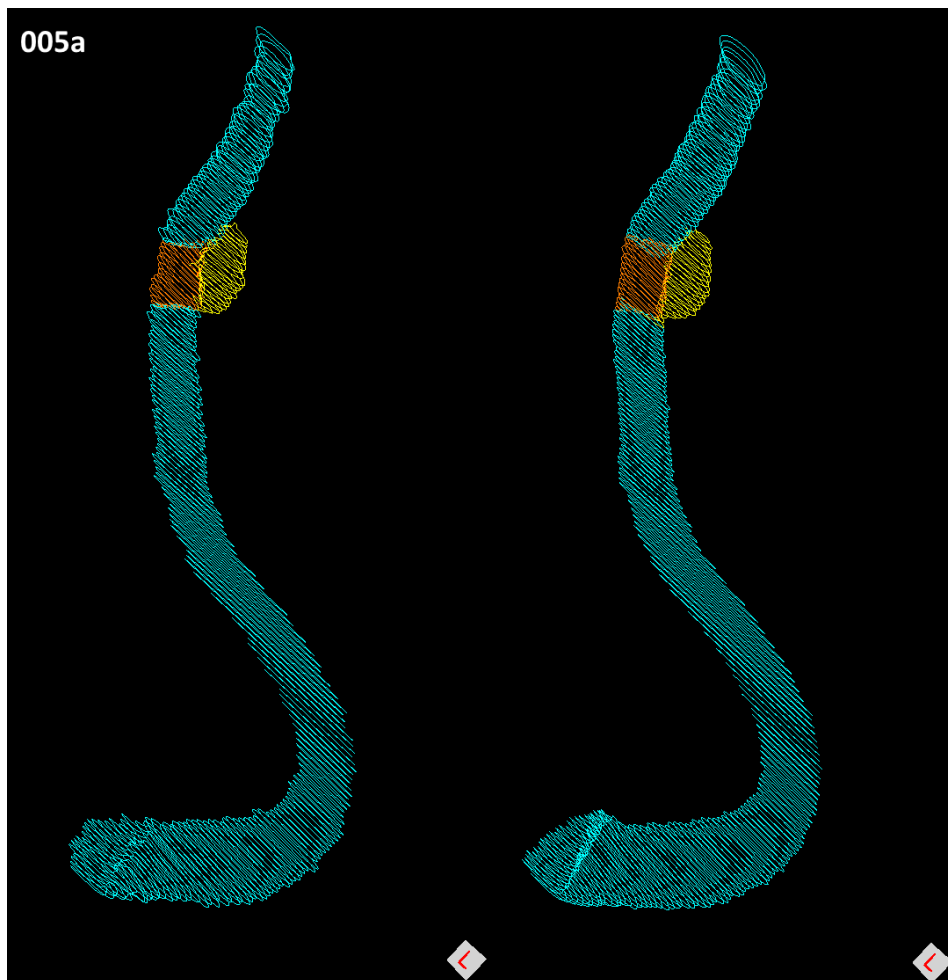
Case 004a



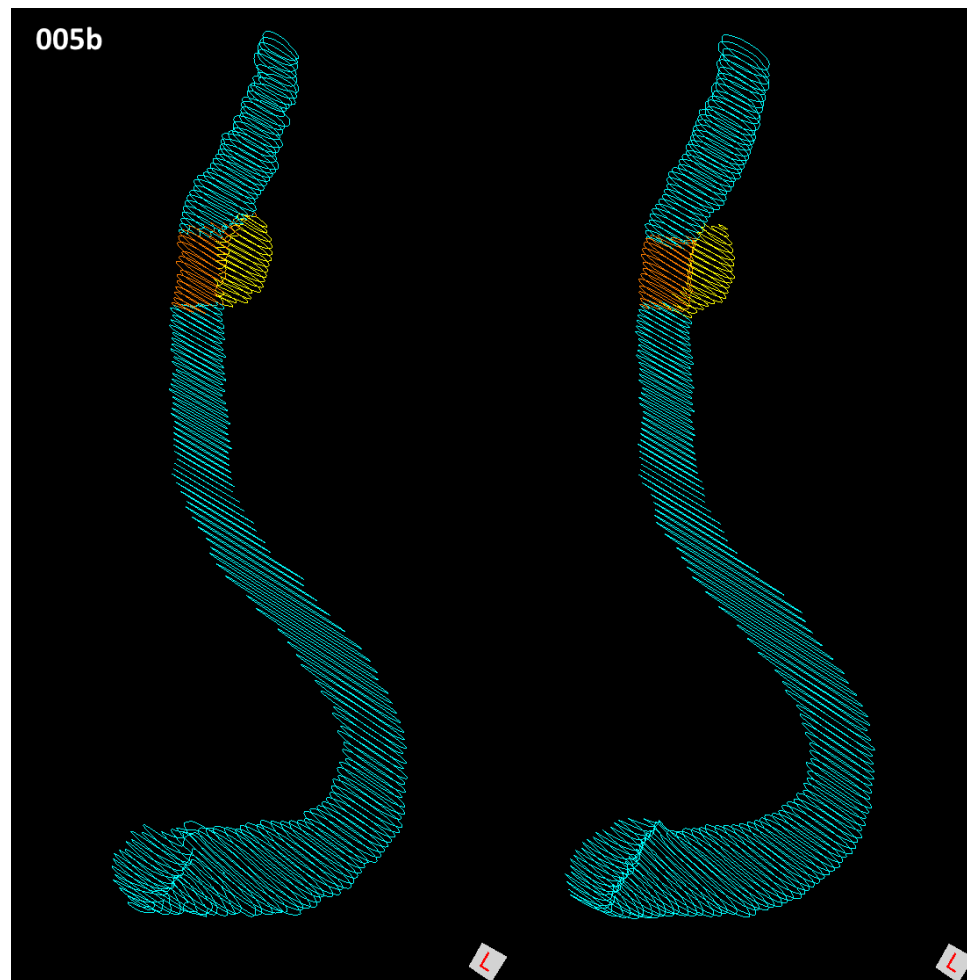
Case 004b



Case 005a

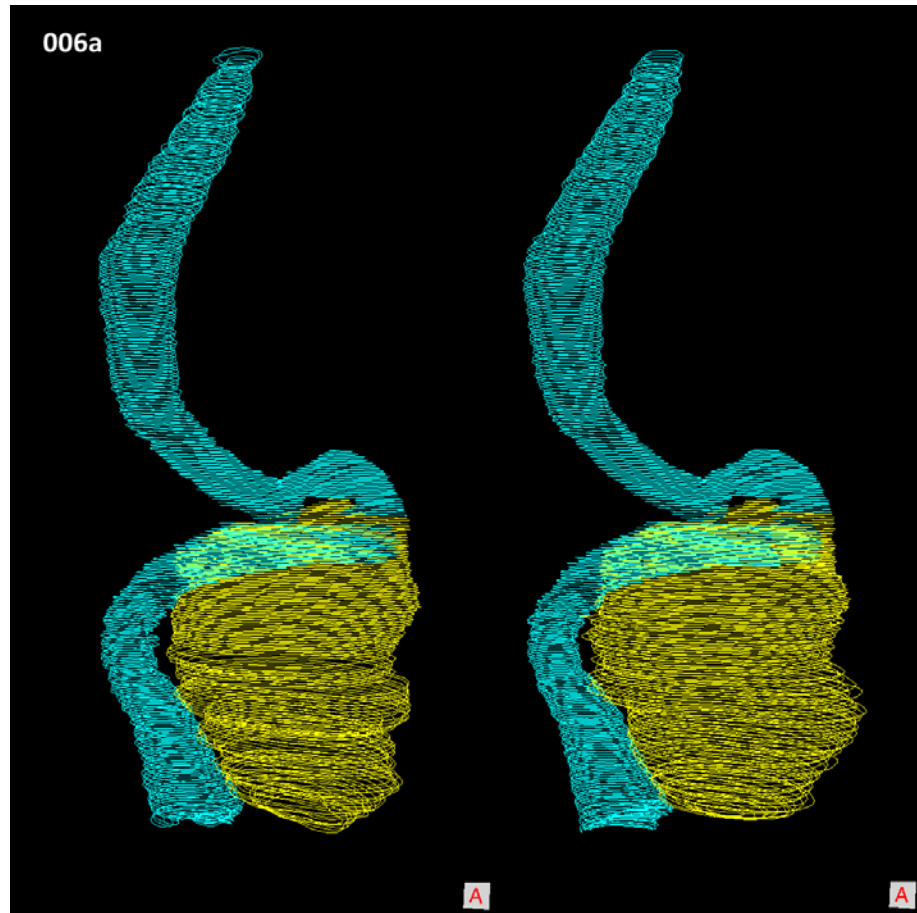


Case 005b

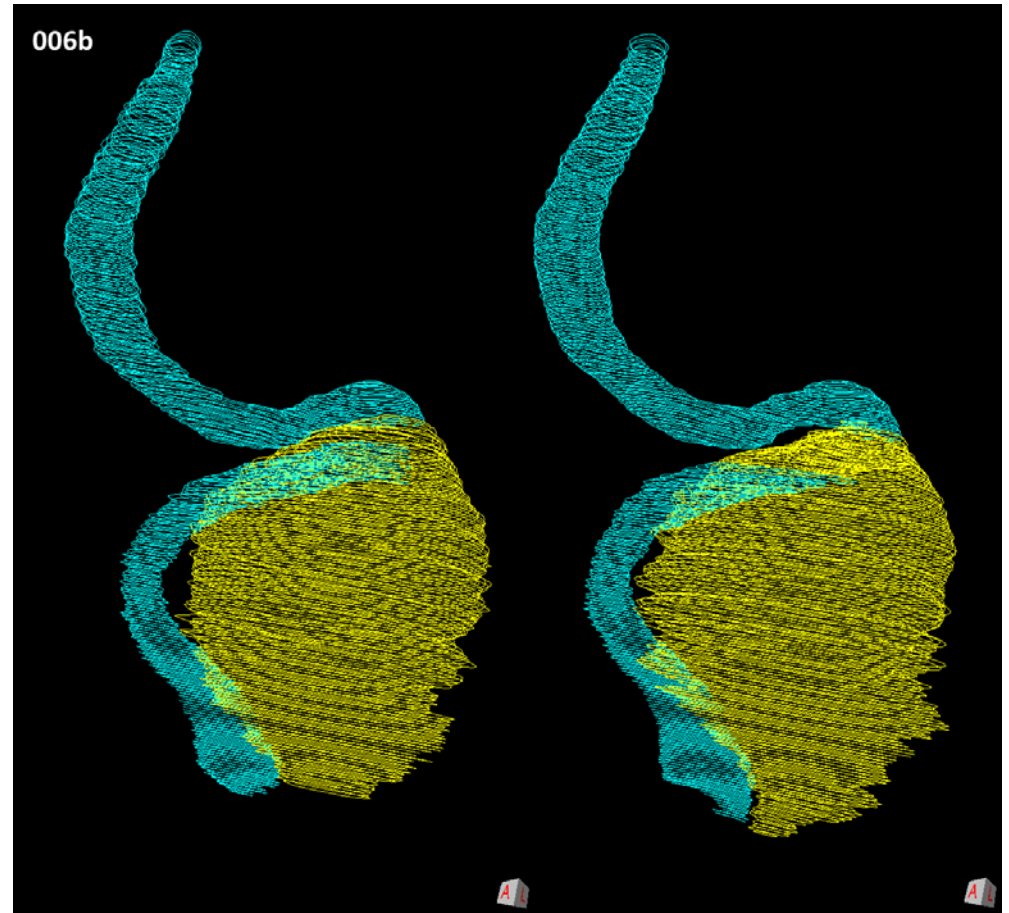




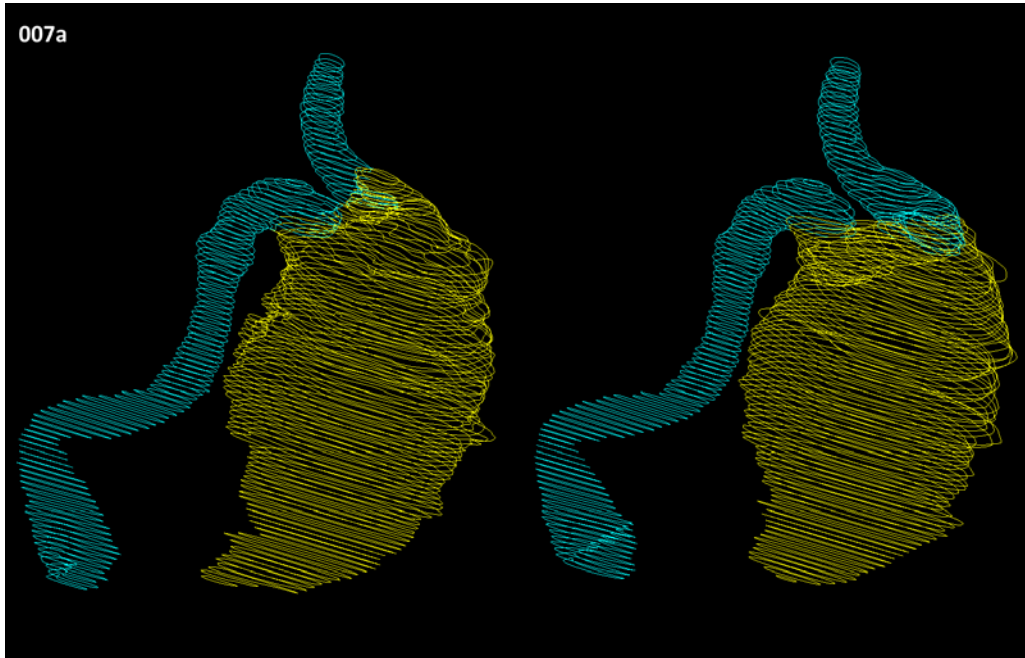
Case 006a



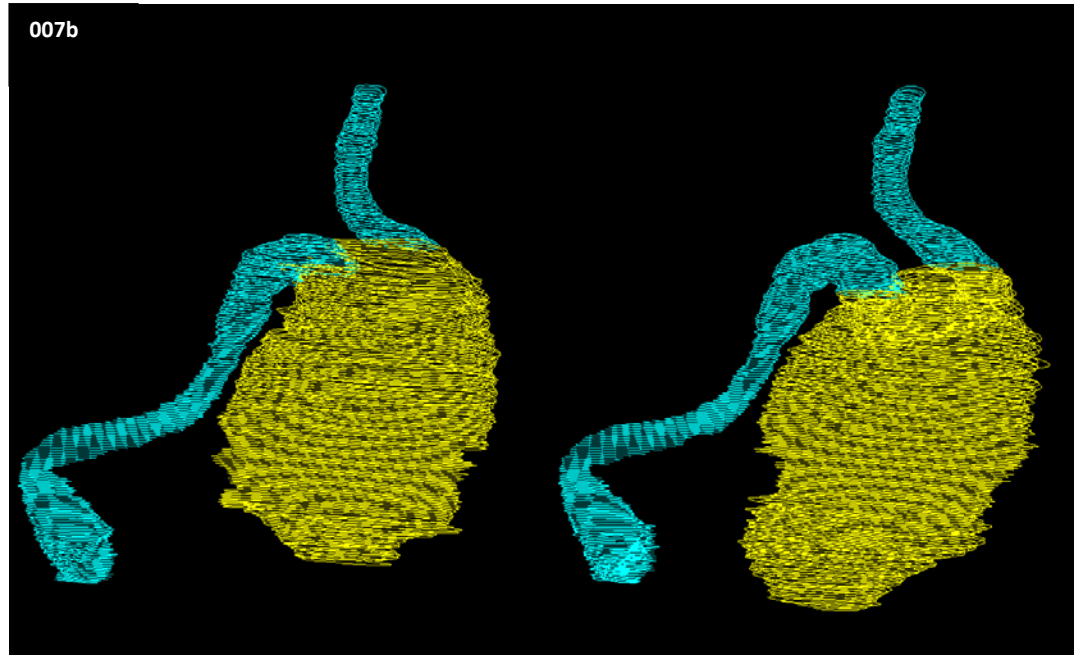
Case 006b



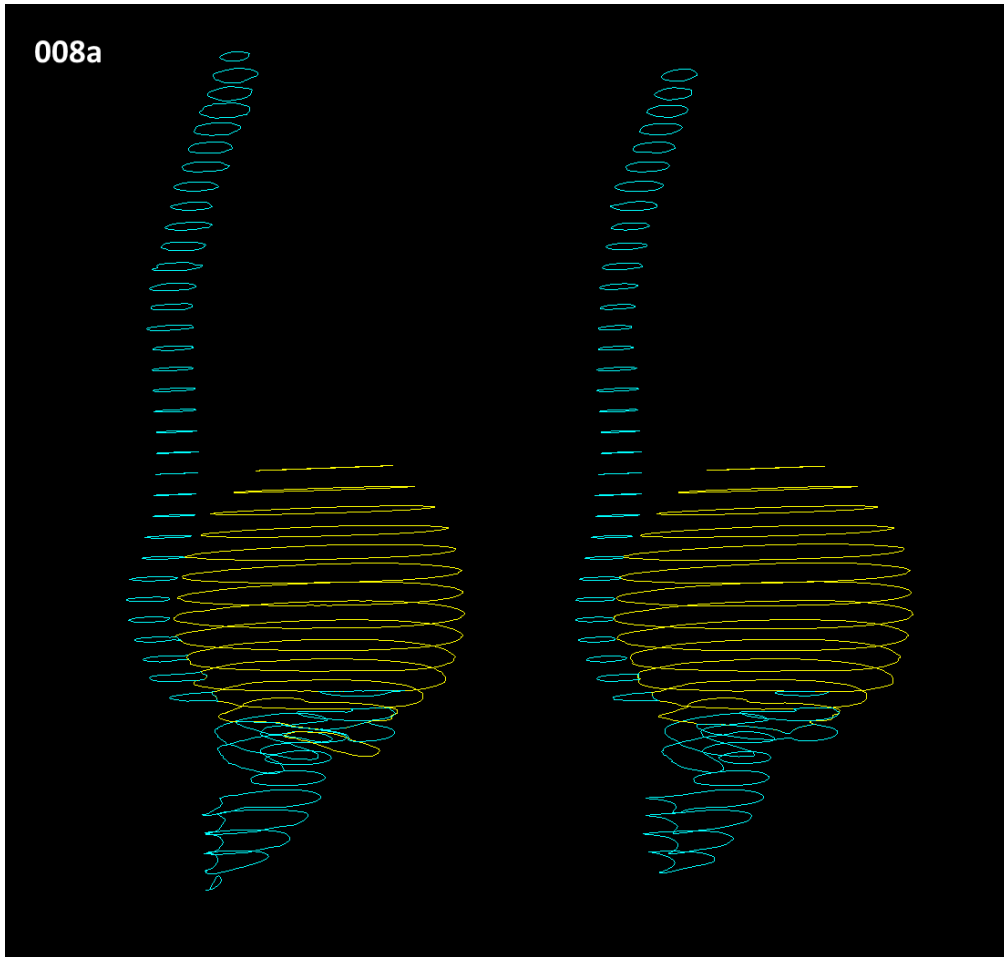
Case 007a



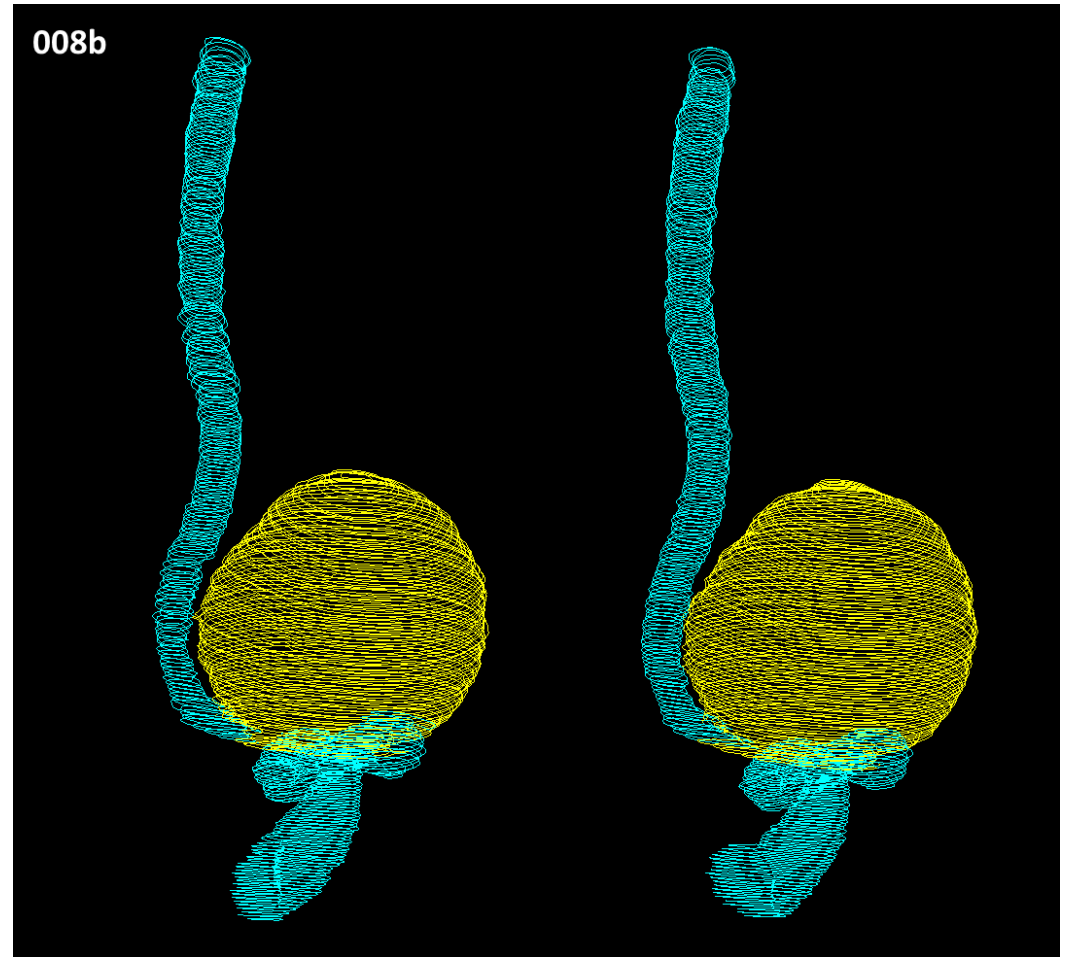
Case 007b



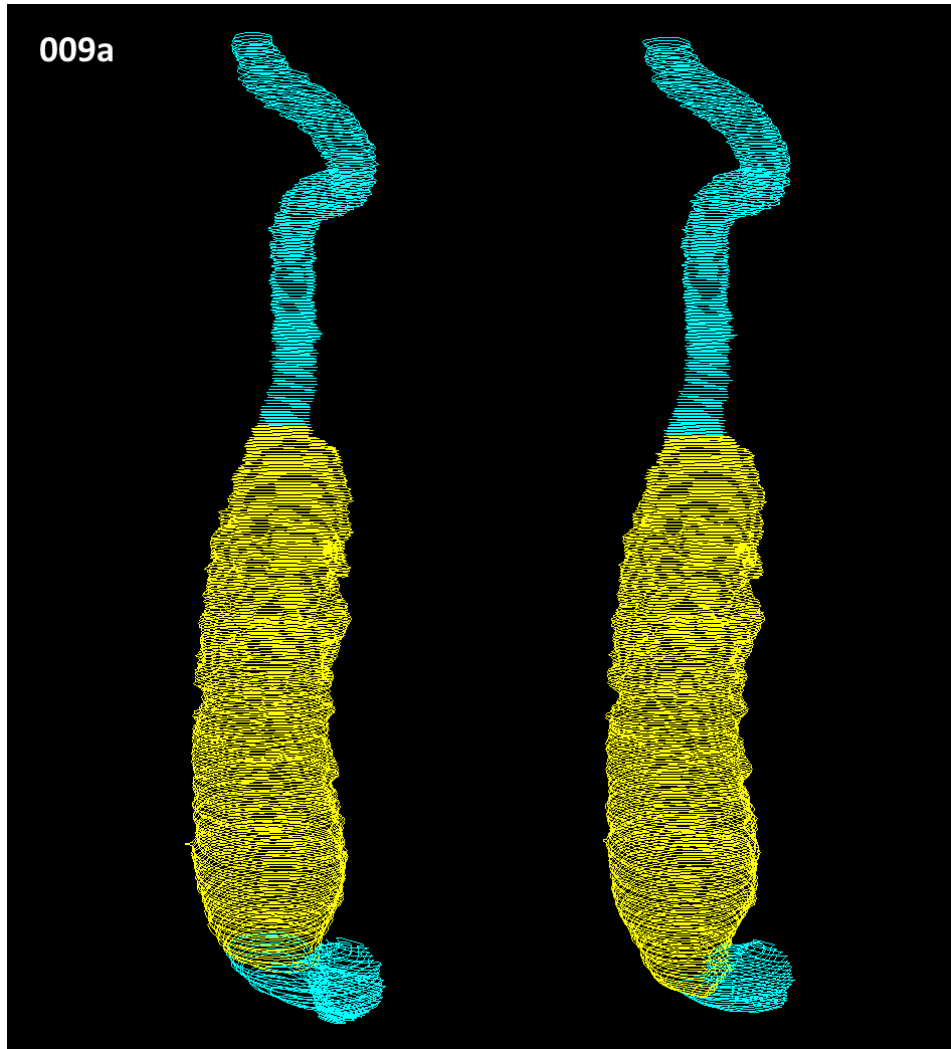
Case 008a



Case 008b



Case 009a

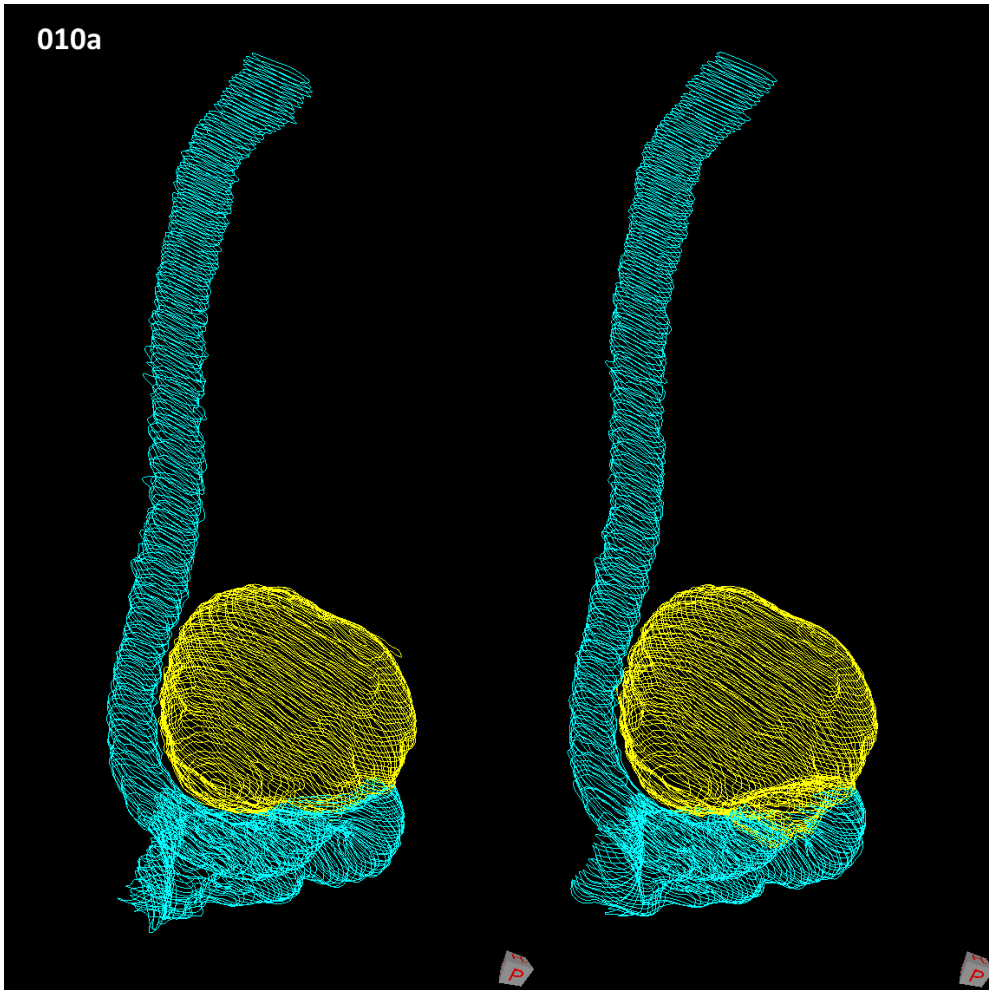


Case 009b

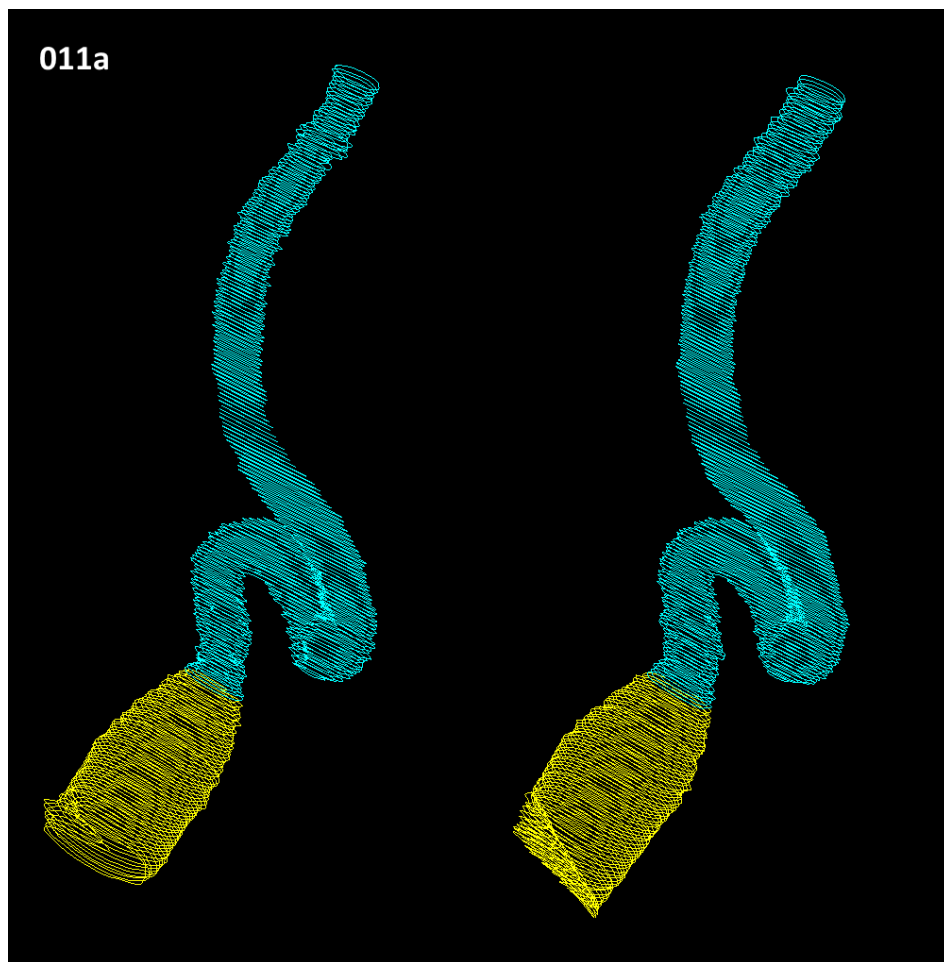


Case 010a

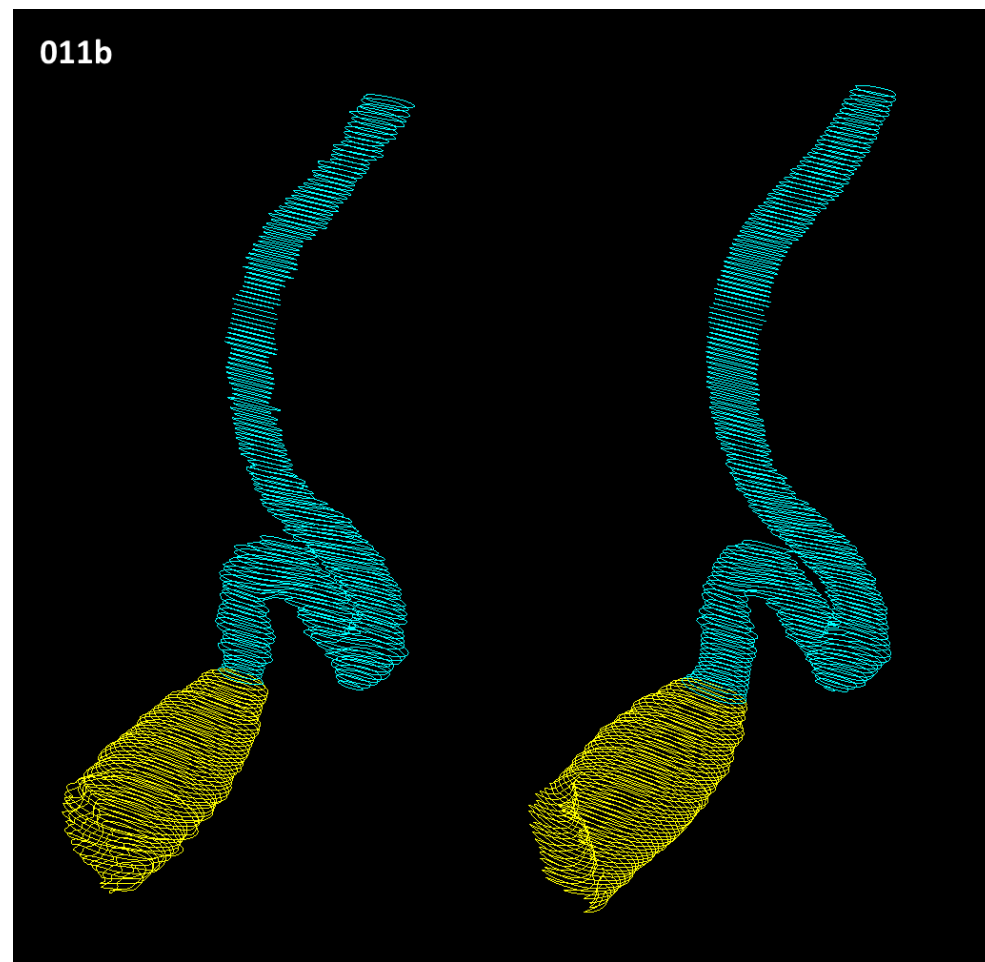
Case 010b



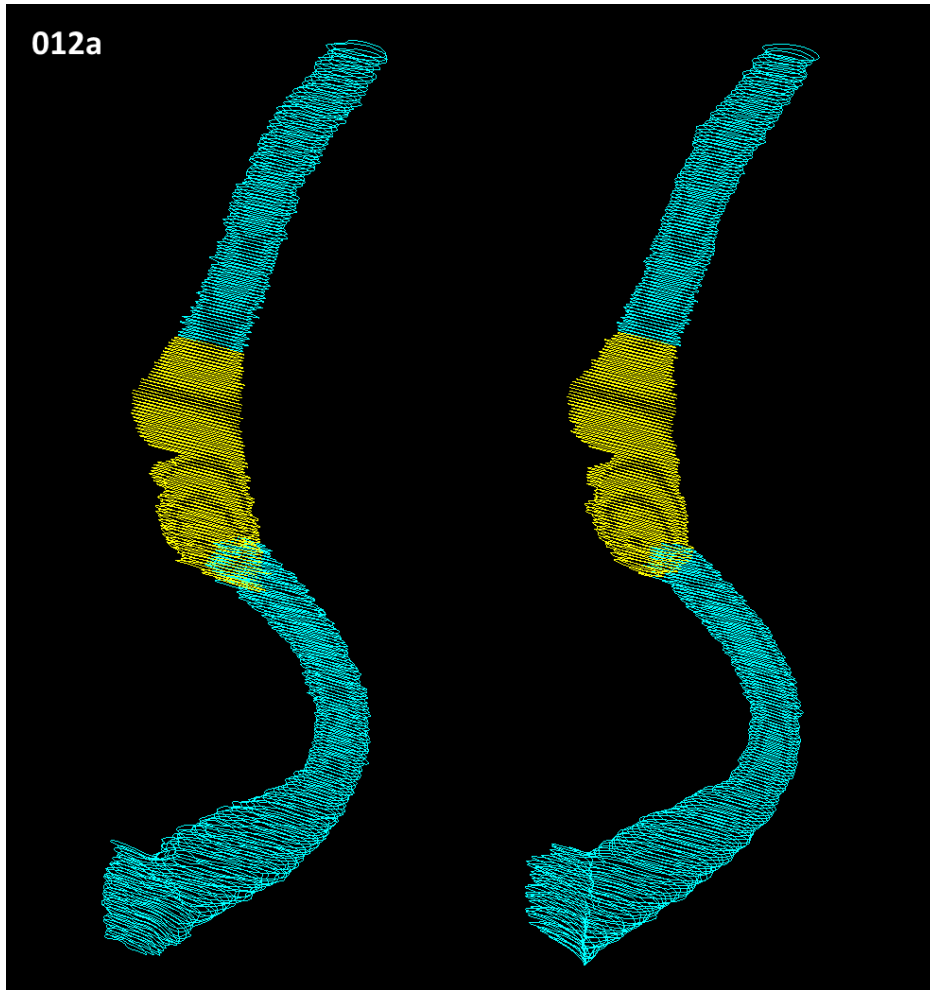
Case 011a



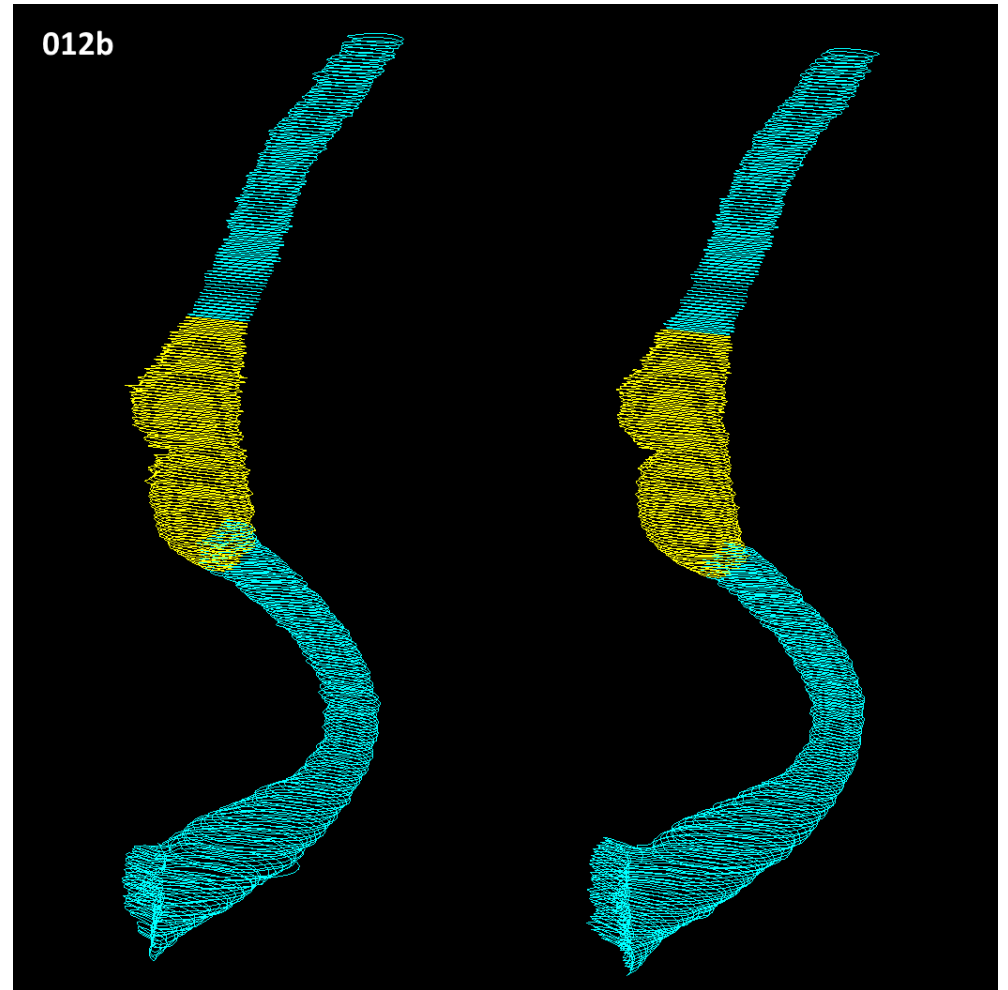
Case 011b



Case 012a



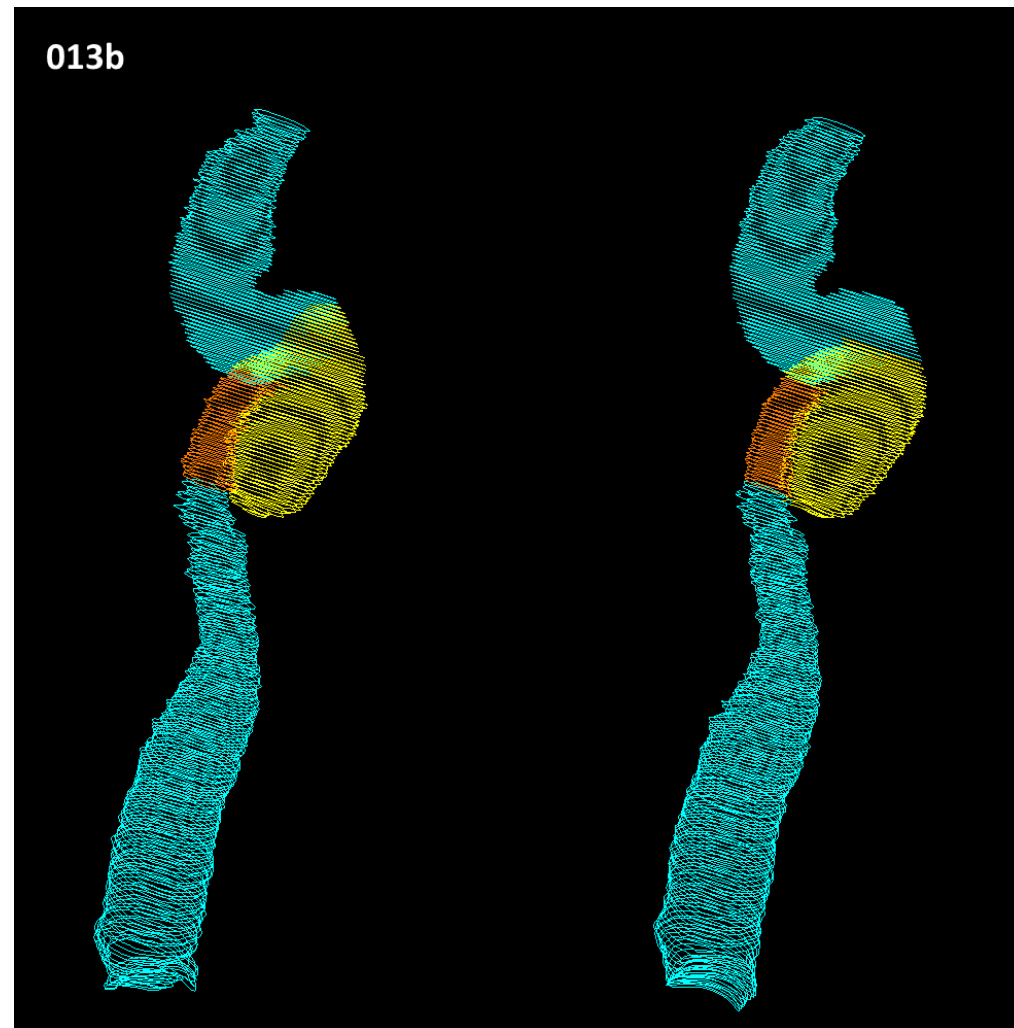
Case 012b



Case 013a

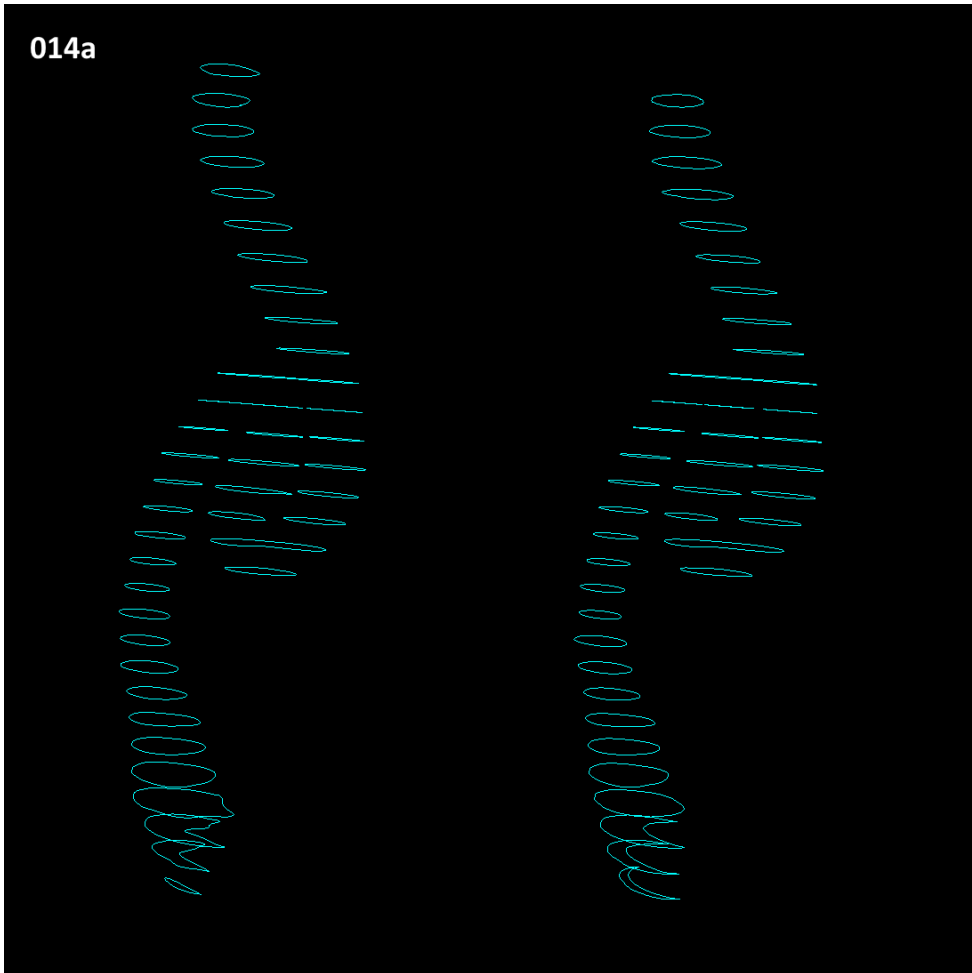


Case 013b

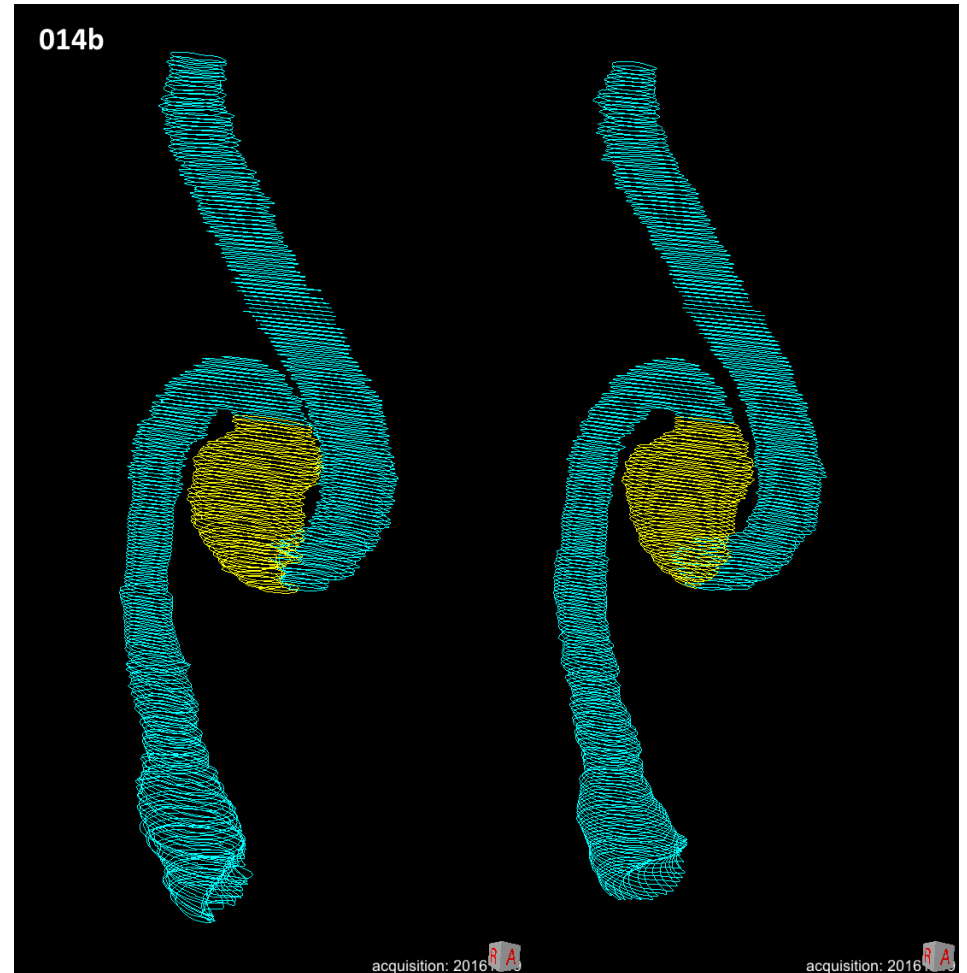




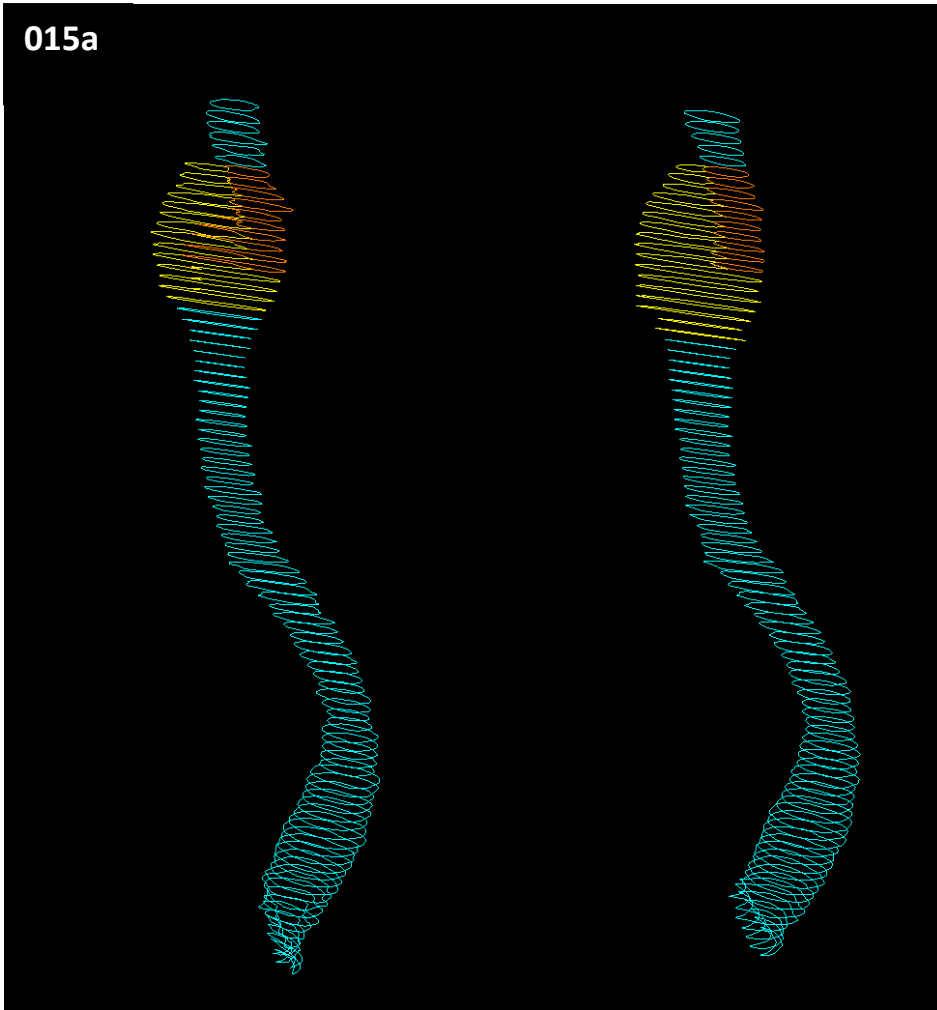
Case 014a



Case 014b



Case 015a

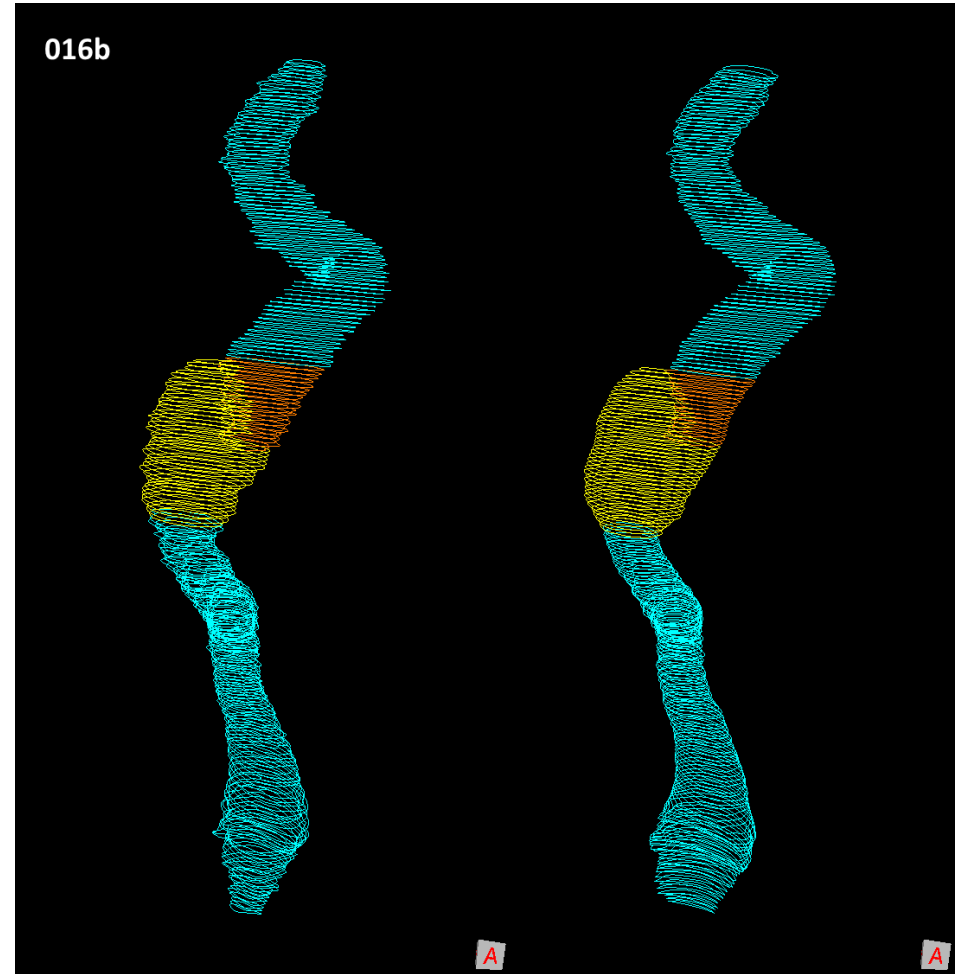


Case 015b

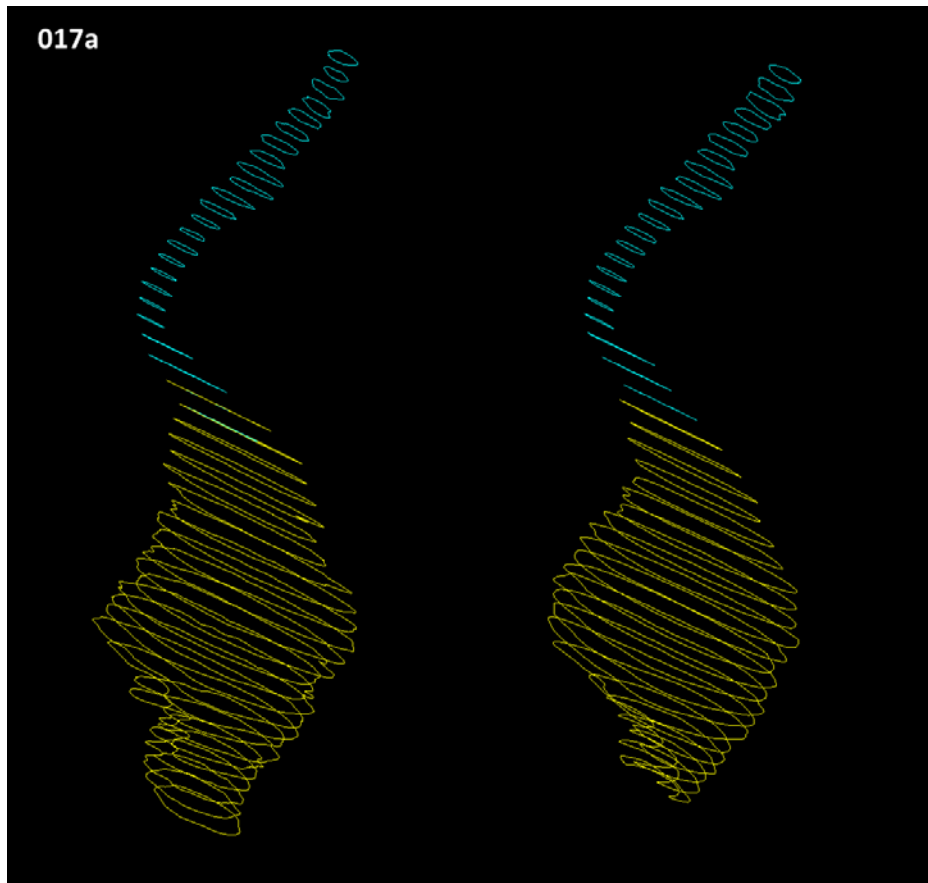


Case 016a

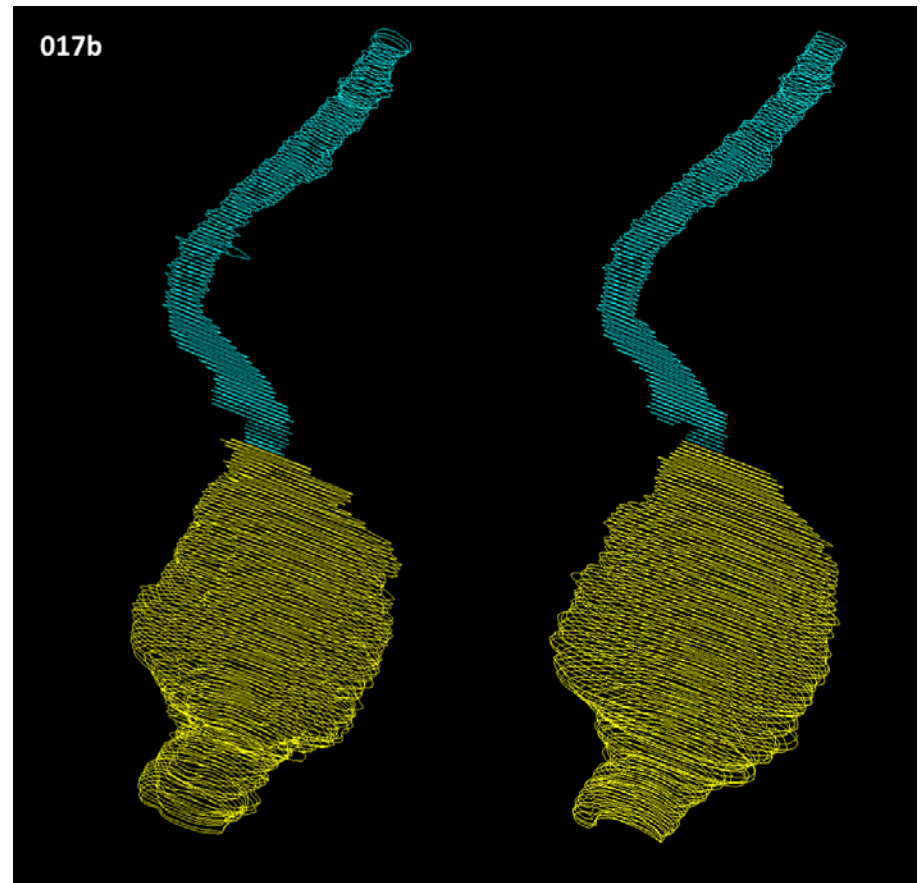
Case 016b



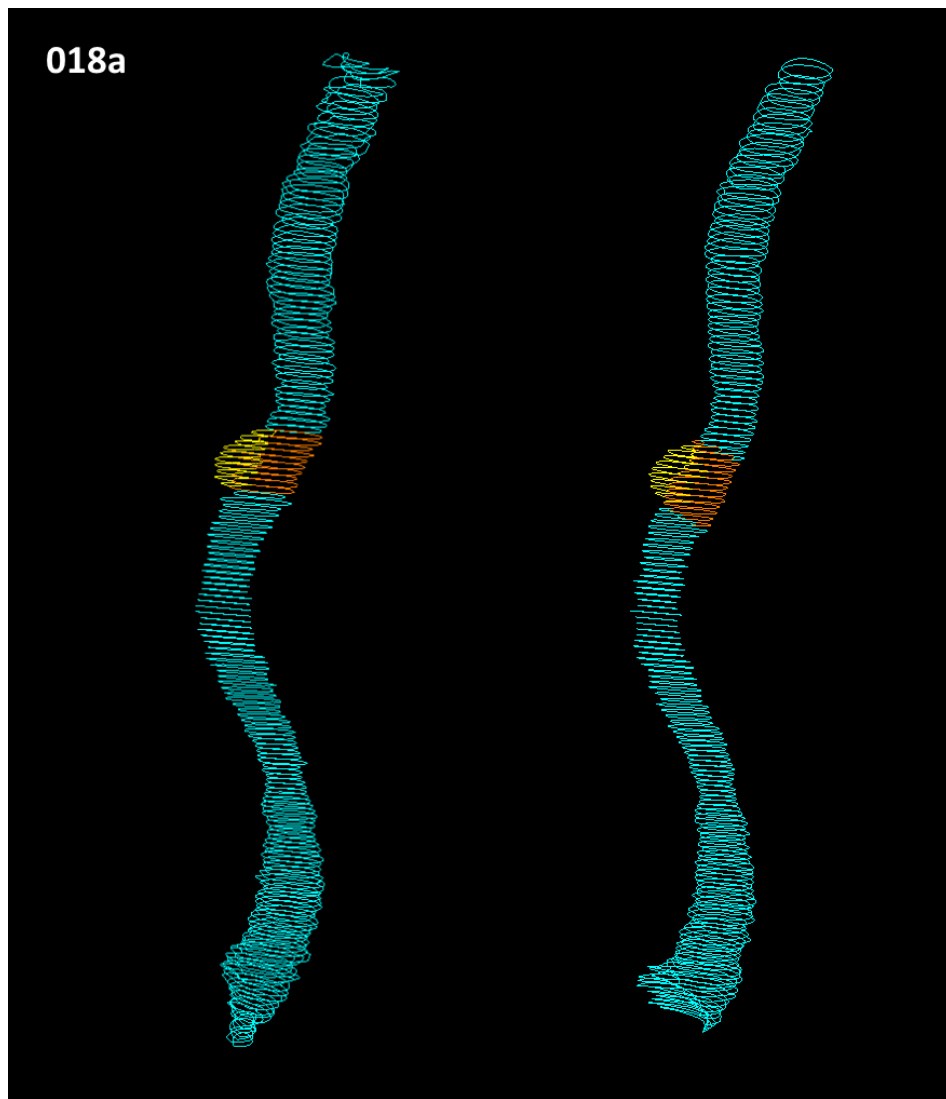
Case 017a



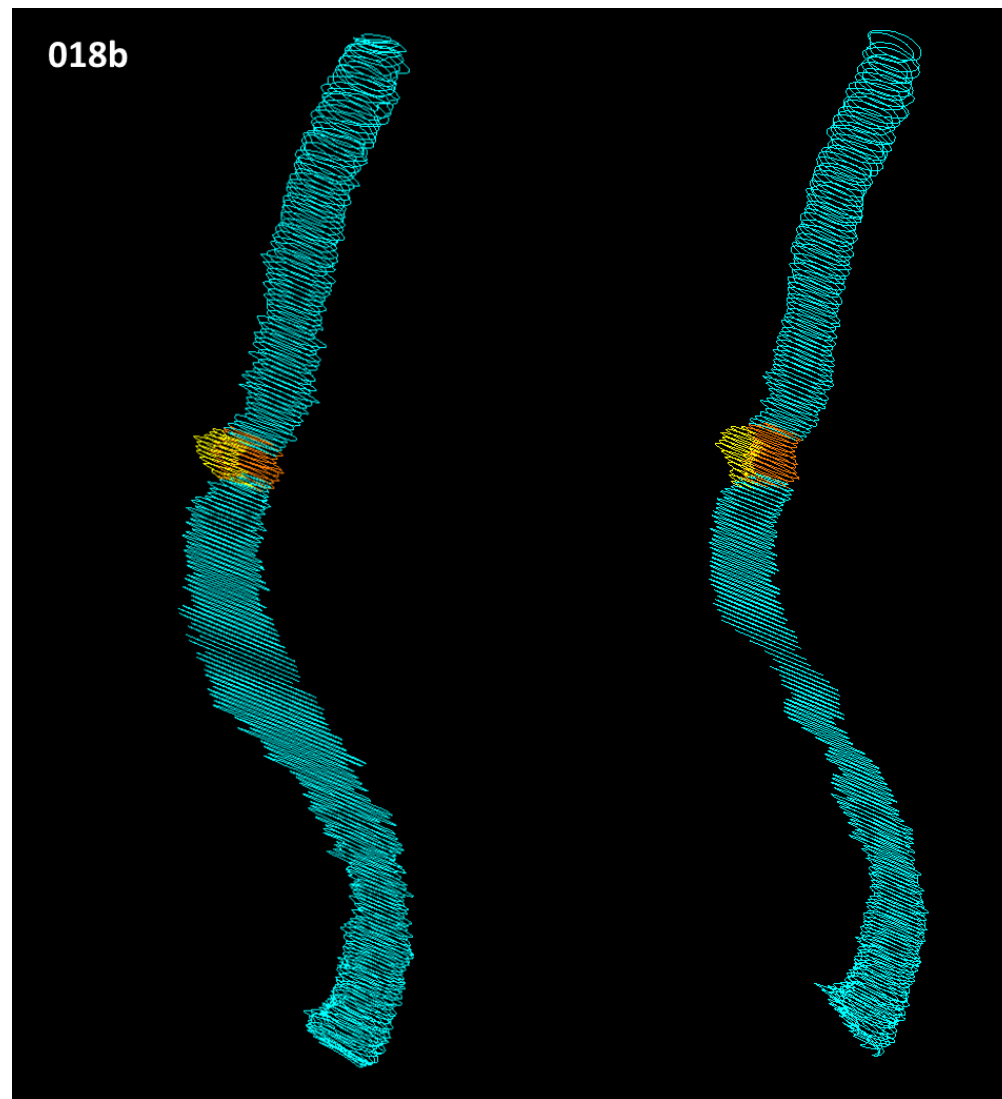
Case 017b



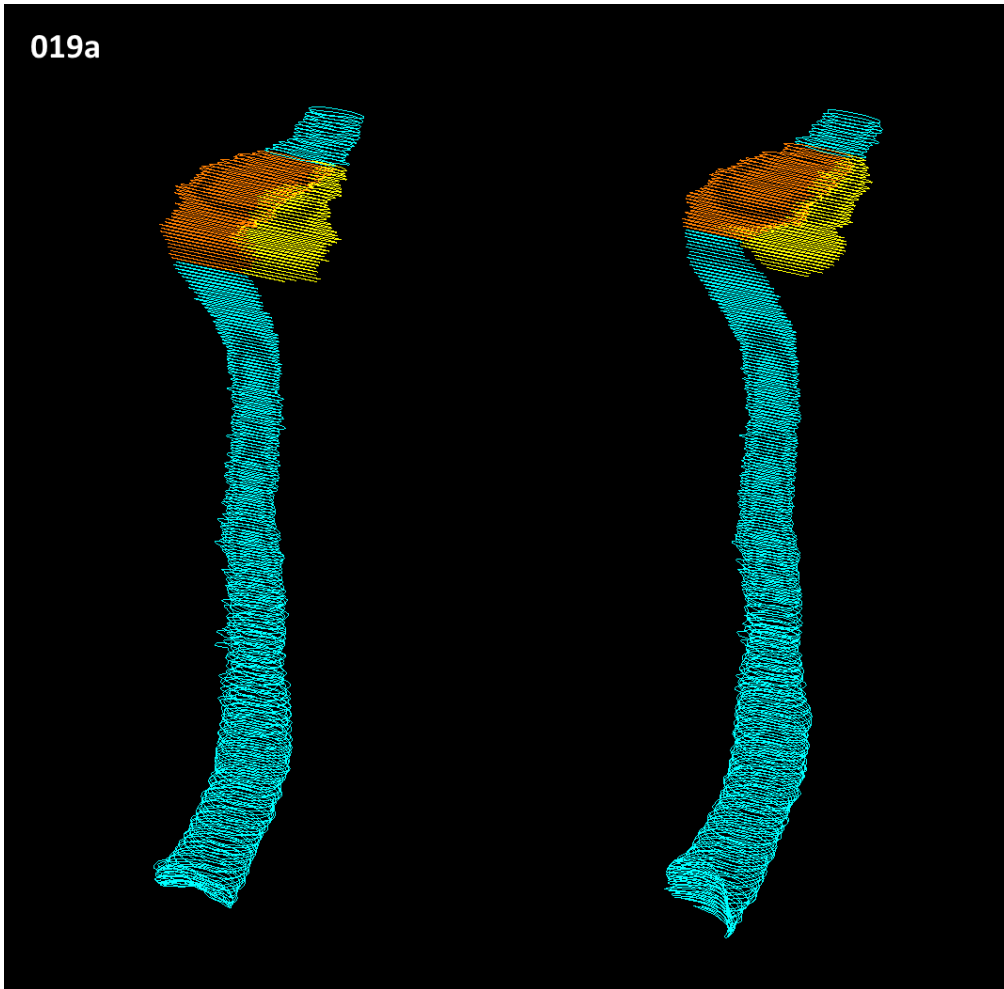
Case 018a



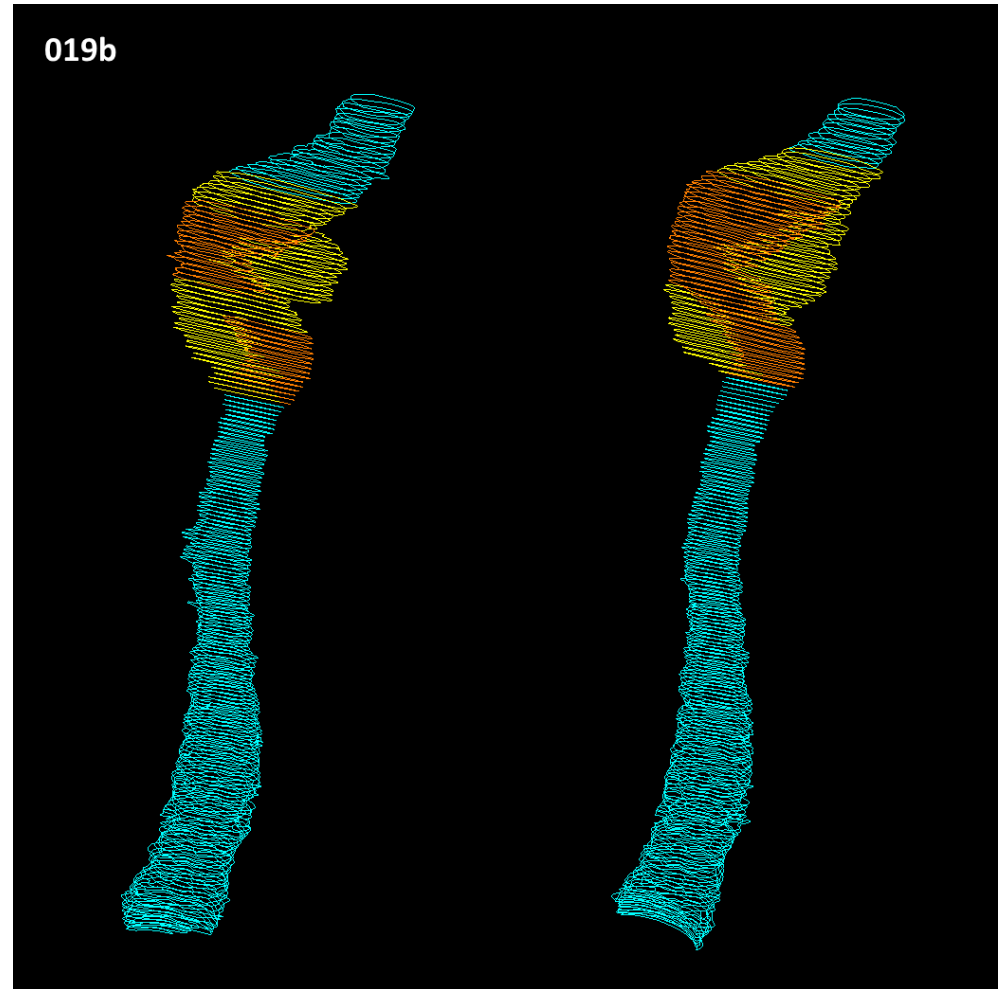
Case 018b



Case 019a

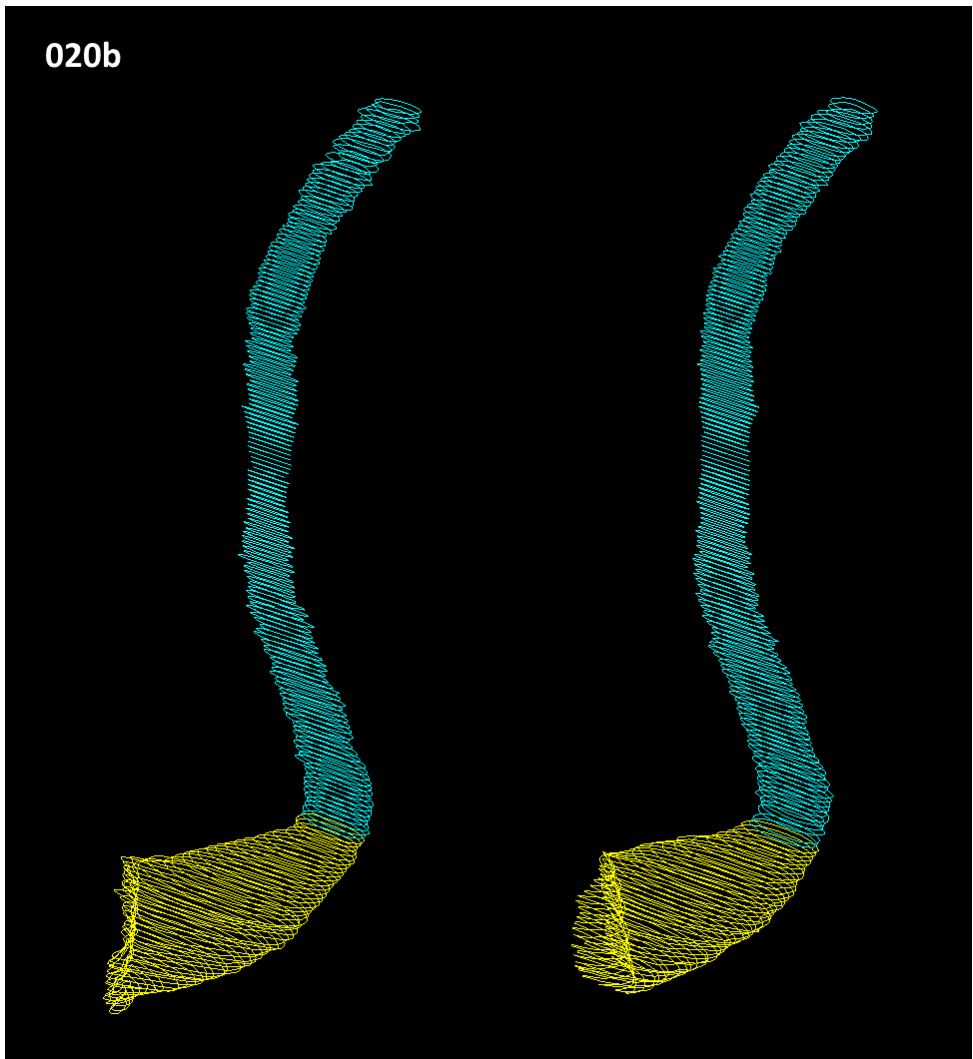
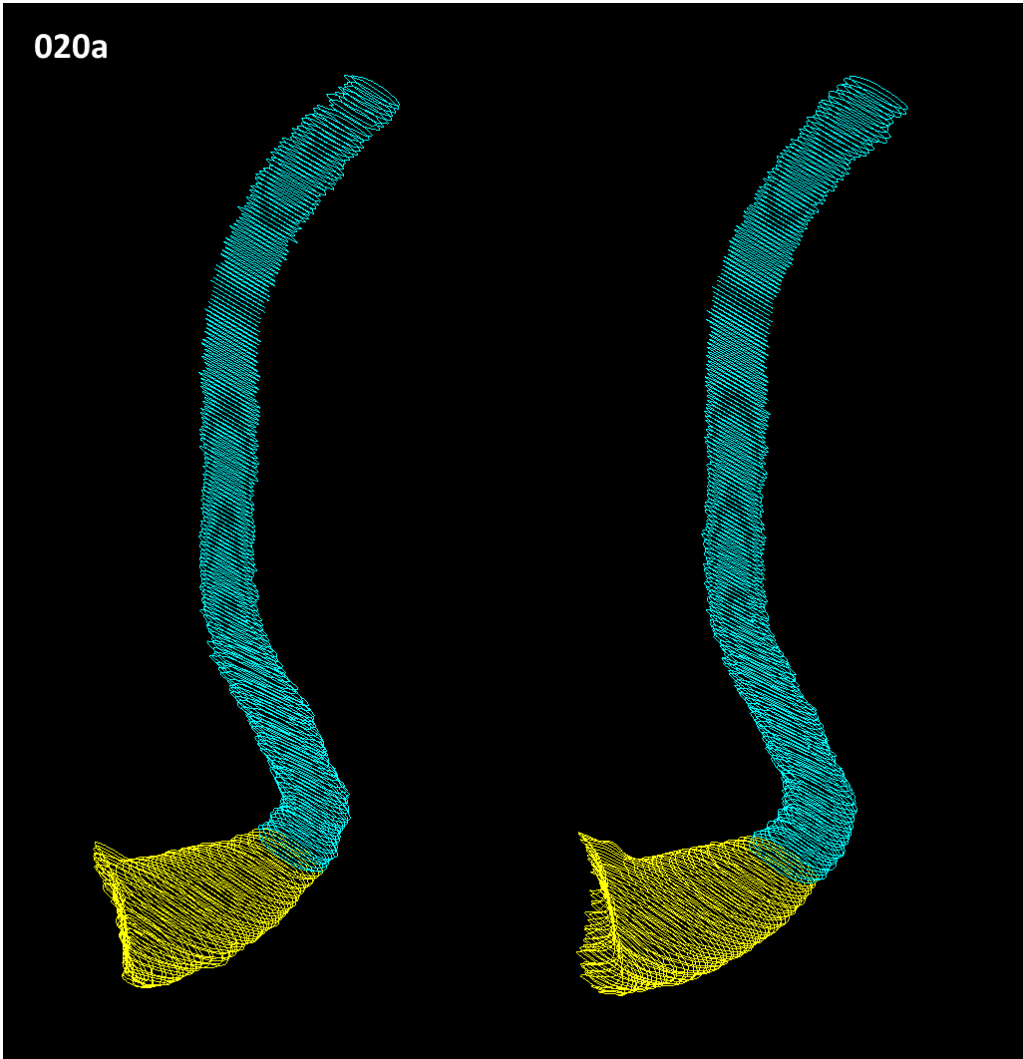


Case 019b



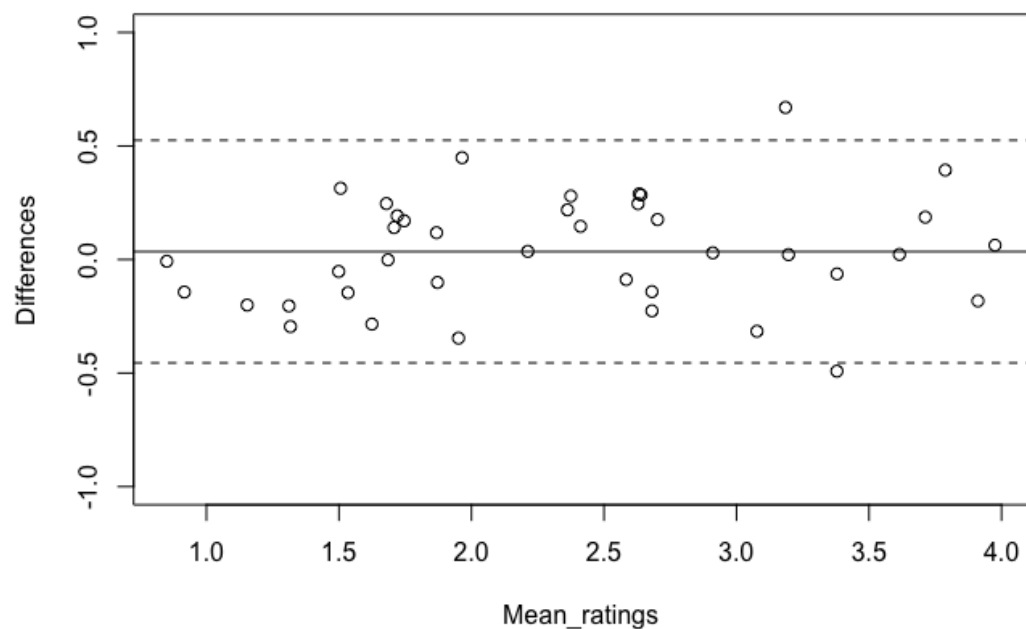
Case 020a

Case 020b

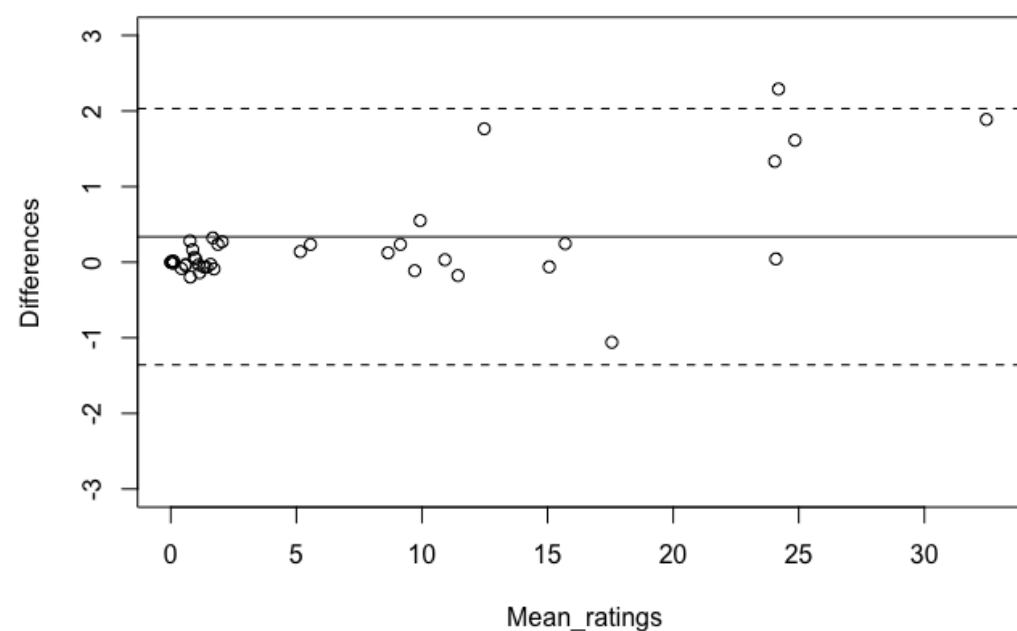


## APPENDIX C

**Supplemental figure A1-4.** Bland-Altman plots showing agreement of two observers on the volume measurement of 40 scans according to the three subfield segmentations, as well as the intraobserver agreement of both observers. The line in the middle represents the mean difference of the volume between the two observers, and the dotted lines represent the upper and lower limits of agreement (mean difference  $\pm 1.96 \times$  standard deviation).

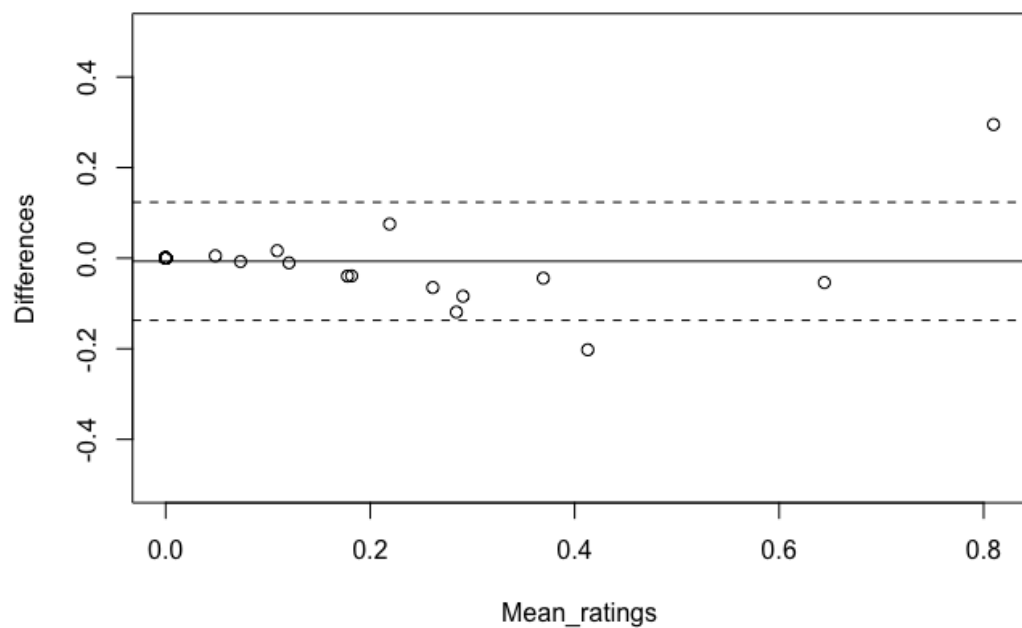


**A1.** Bland-Altman plot of subfield segmentation "only vessel".  
sac".

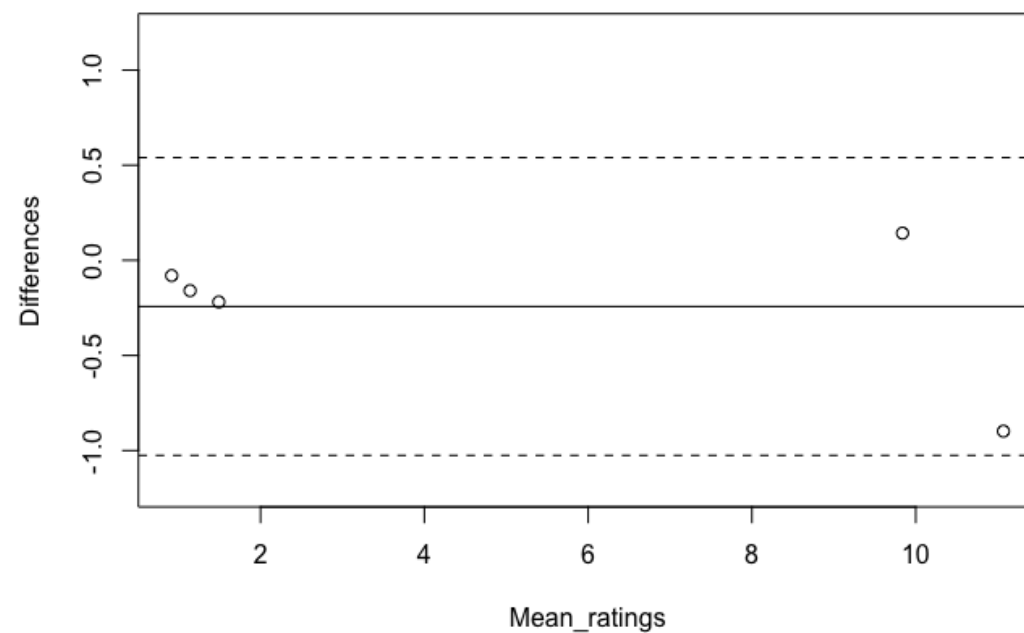


**A2.** Bland-Altman plot of subfield segmentation "aneurysm  
sac".





**A3. Bland-Altman plot of subfield segmentation "vessel adjacent to aneurysm sac" (top left).**



**A4. Bland-Altman plots of the intraobserver agreement of measurement method 2 for subset of 5 randomly selected cases, for observer 1 (top right) and observer 2 (bottom right).**

