SUPPLEMENTARY DATA

Assessing the validity of a cross-platform retinal image segmentation tool in normal and diseased retina

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Supplementary Figure S1

Retinal layer segmentation of Normal eyes using the proprietary and the cross-platform software.

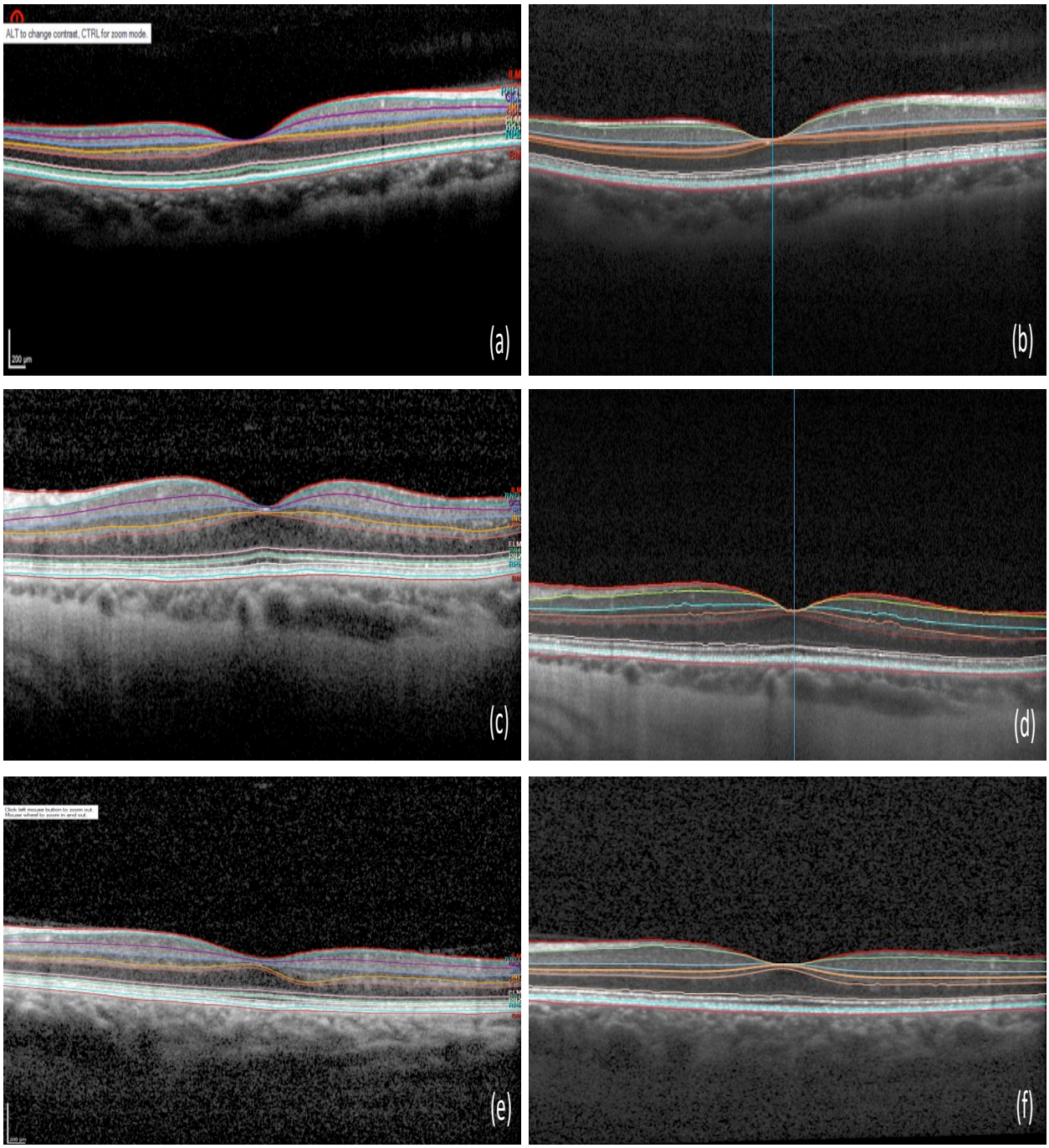

Figure 1. (a) Heidelberg with no errors (b) Orion with no errors (c) Heidelberg with mild errors (d) Orion with mild errors (e) Heidelberg with moderate segmentation errors (f) Orion with moderate segmentation errors.

Supplementary Figure S2

Retinal layer segmentation of eyes with iAMD using the proprietary and the cross-platform software

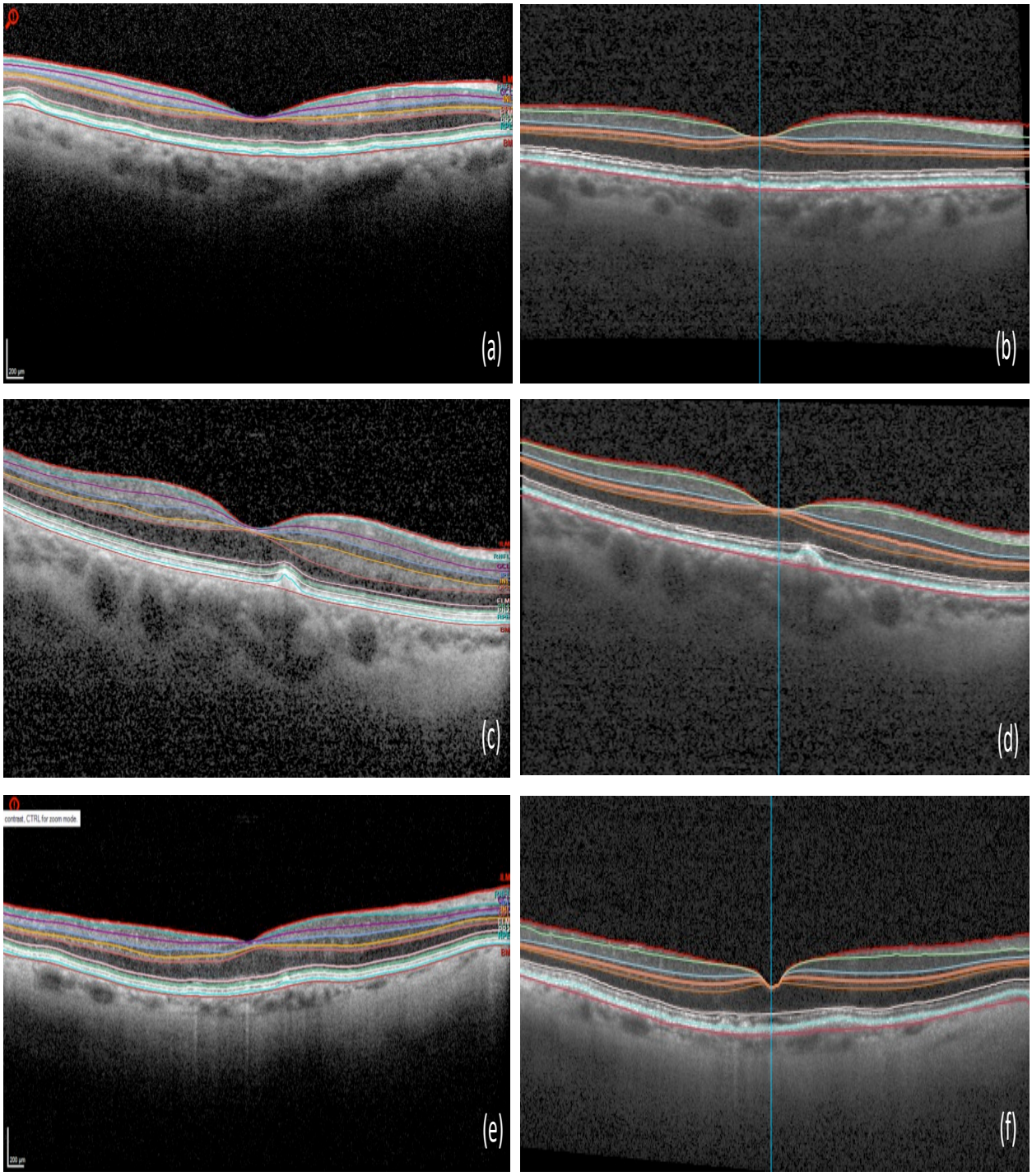

Figure 2. (a) Heidelberg with no errors (b) Orion with no errors (c) Heidelberg with mild errors (d) Orion with mild errors (e) Heidelberg with moderate segmentation errors (f) Orion with moderate segmentation errors.

Supplementary Figure S3

Retinal layer segmentation of DME eyes using the proprietary and the cross-platform software

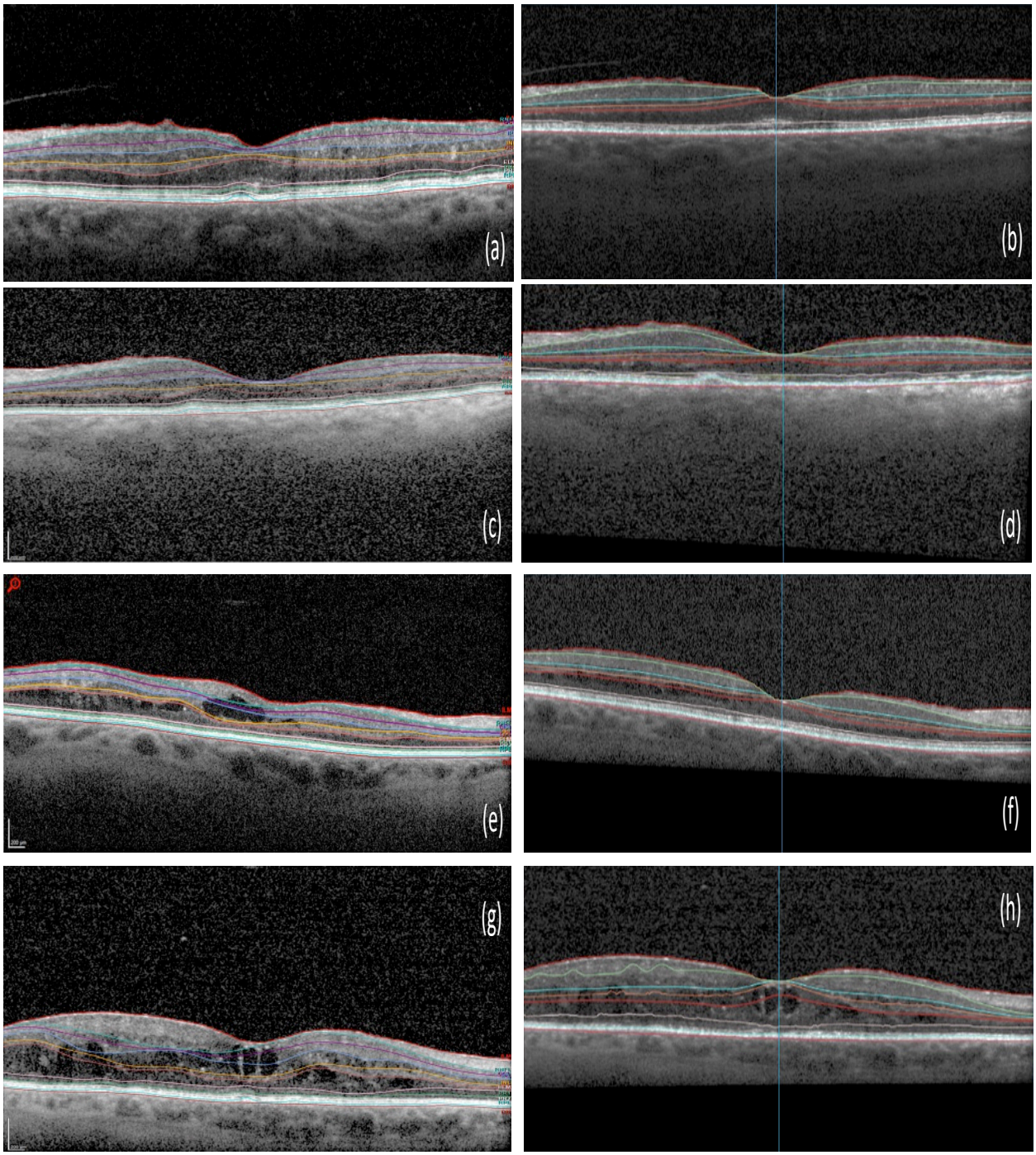

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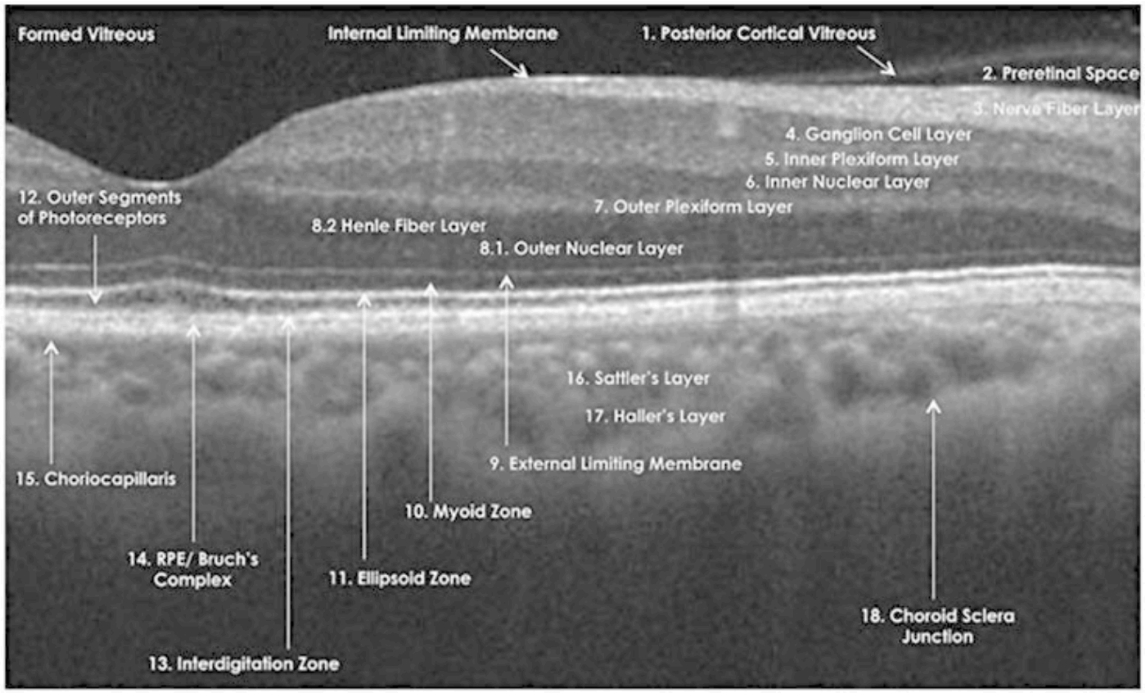
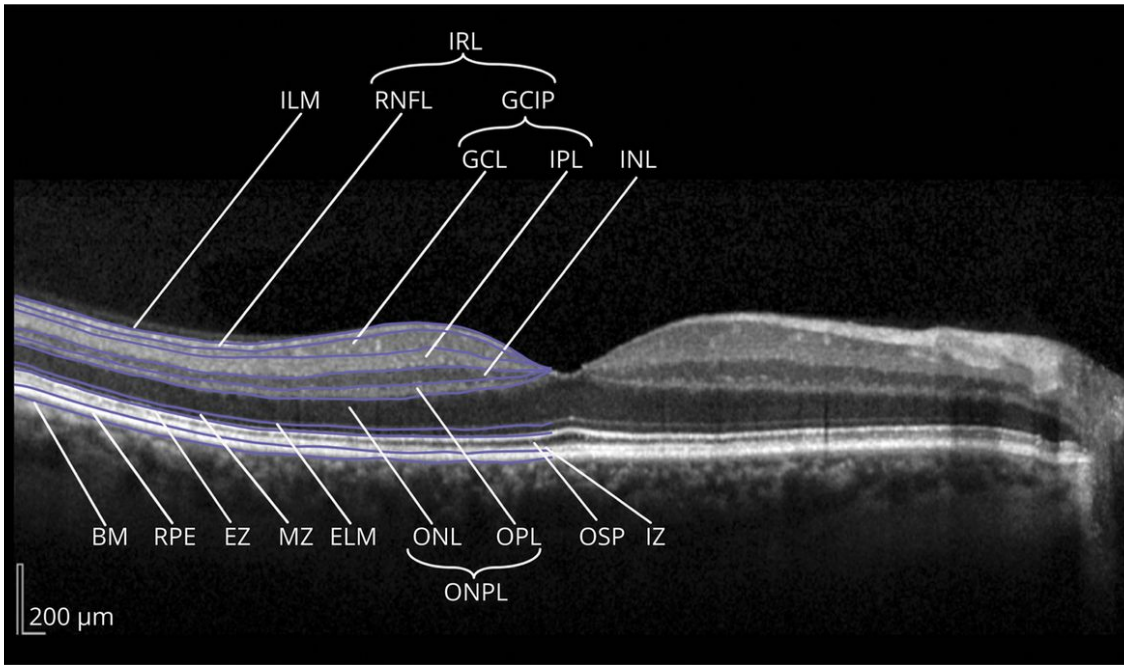
Figure 3. (a) Heidelberg with no errors (b) Orion with no errors (c) Heidelberg with mild errors (d) Orion with mild errors (e) Heidelberg with moderate segmentation errors (f) Orion with moderate segmentation errors (g) Heidelberg with severe segmentation errors (h) Orion with severe segmentation errors.

Supplementary Figure S4

International Nomenclature

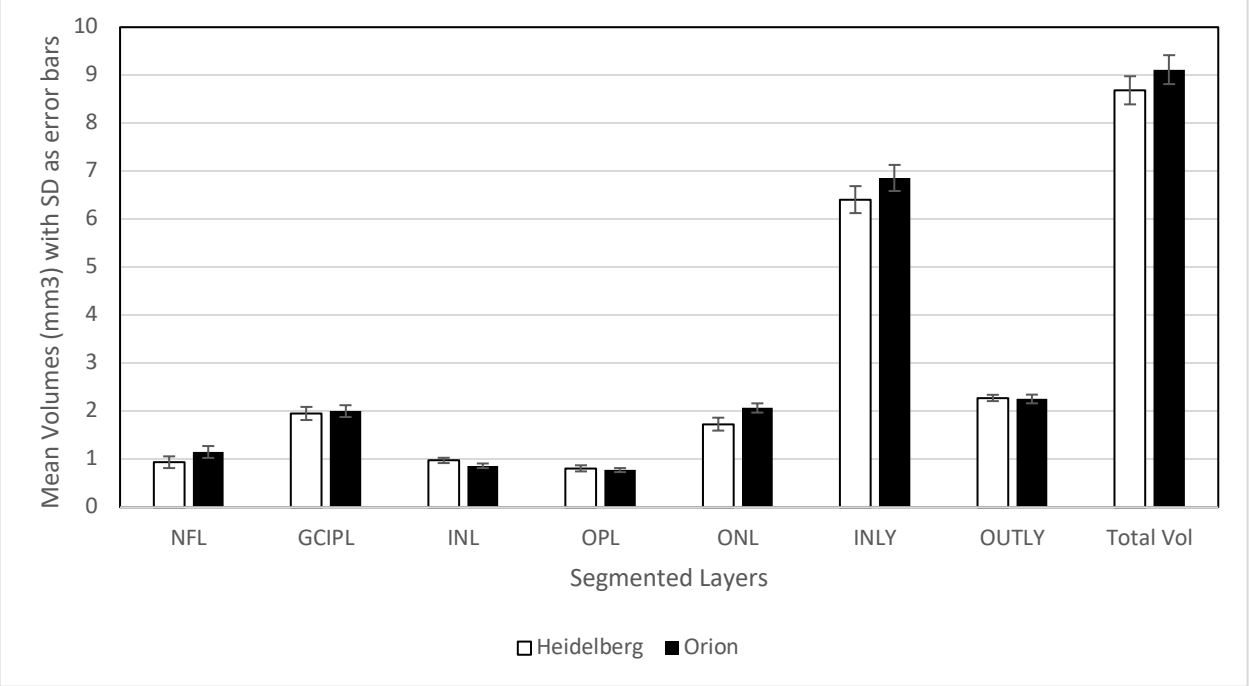


APOSTEL recommendation



Supplementary Figure S5

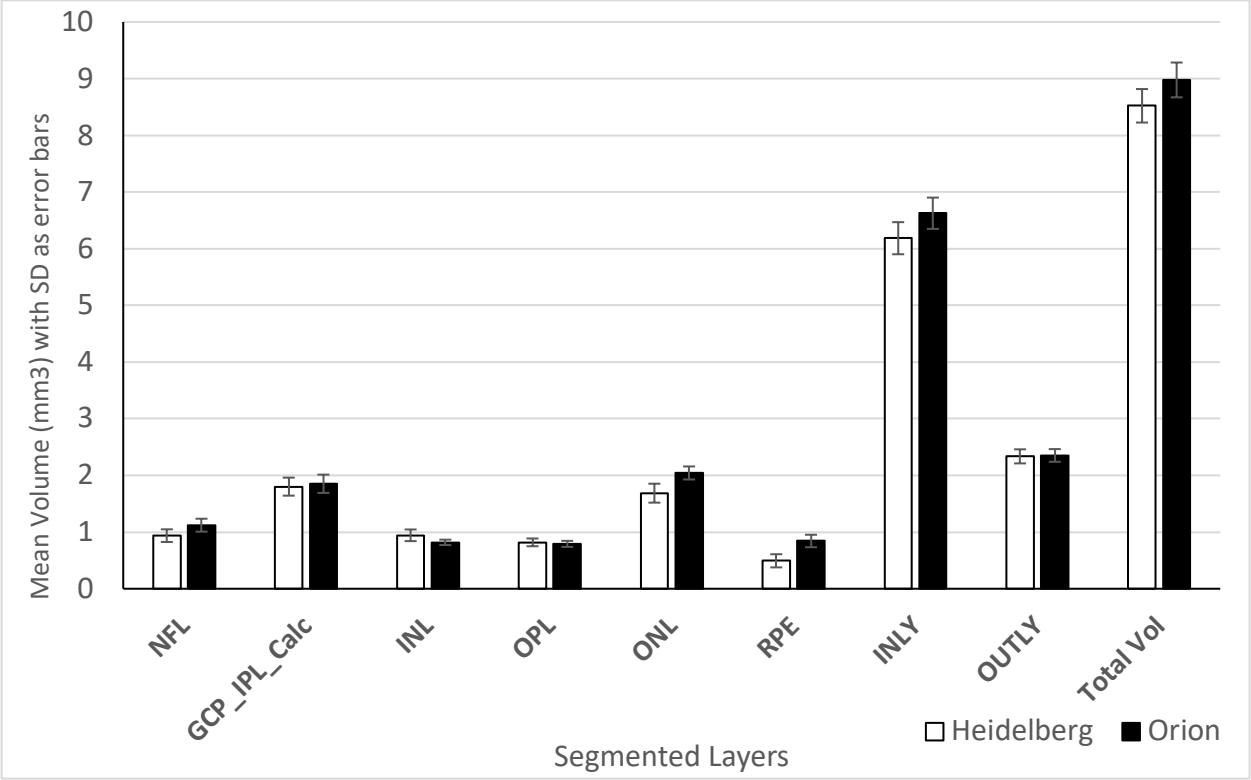
Comparison of segmented retinal layer volumes in Normal eyes using the proprietary and the cross-platform software



INLY- Inner retinal layers in total, OUTLY- Outer retinal layers in total

Supplementary Figure S6

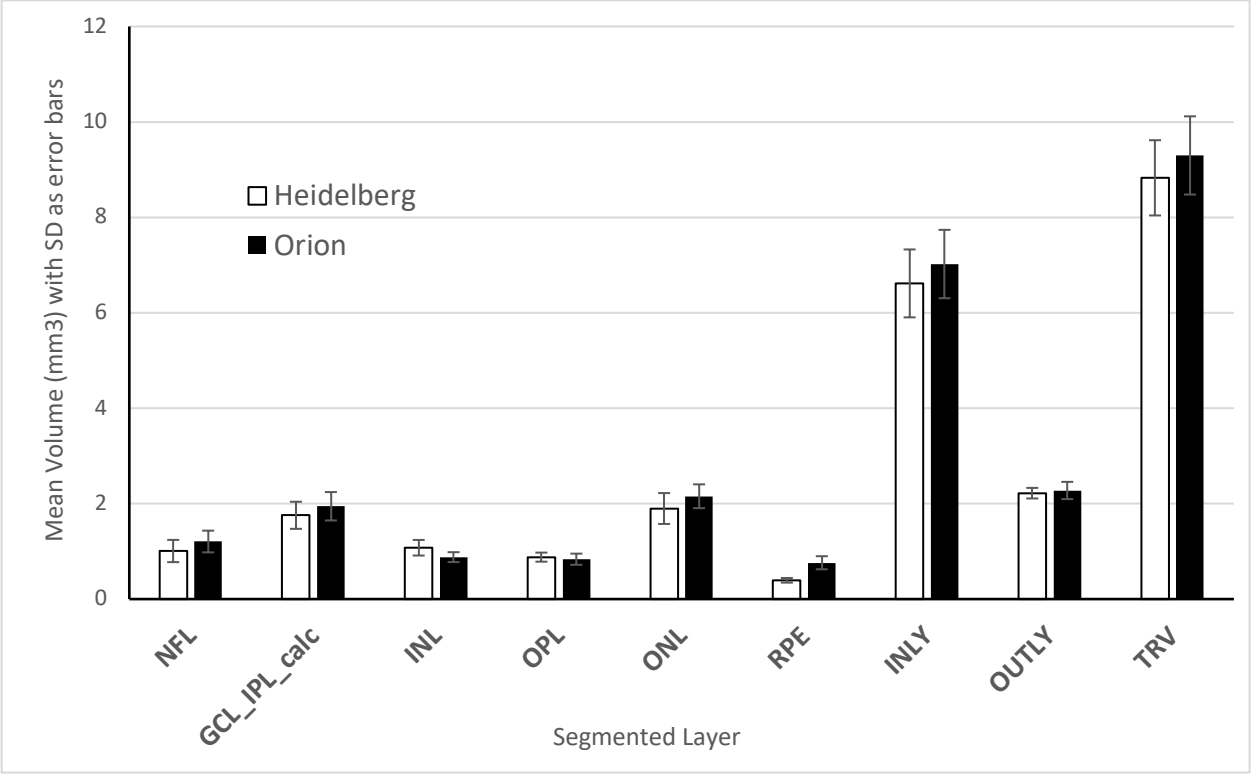
Comparison of segmented retinal layer volumes in intermediate dry age-related macular degeneration eyes using the proprietary and the cross-platform software



INLY- Inner retinal layers in total, OUTLY- Outer retinal layers in total

Supplementary Figure S7

Comparison of segmented retinal layer volumes in eyes with diabetic macular edema using the proprietary and the cross-platform software



TRV- Total retinal volume, INLY- Inner retinal layers in total, OUTLY- Outer retinal layers in total

Supplementary Table 1

Qualitative comparison of the proprietary and the cross-platform software retinal segmentations, with manual grading, in normal, intermediate dry age-related macular degeneration and diabetic macular edema eyes

Normal		
Layer	**Observed Agreement**	**Weighted Kappa**
NFL	0.53	0.32
GCIPL	0.82	0.31
INL	0.80	0.33
OPL	0.91	0.33
ONL	0.91	0.30
Average	0.80	0.32
AMD		
Layer	**Observed Agreement**	**Weighted Kappa**
NFL	0.73	0.40
GCIPL	0.76	0.13
INL	0.73	0.36
OPL	0.85	0.59
ONL	0.58	0.32
Average	0.73	0.36
DME		
Layer	**Observed Agreement**	**Weighted Kappa**
NFL	0.43	0.25
GCIPL	0.47	0.19
INL	0.23	0.13
OPL	0.33	0.18
ONL	0.40	0.21
Average	0.37	0.19

Supplementary Table 2

Intergrader agreement in Normal, Intermediate dry AMD and DME eyes

NORMAL - HEIDELBERG		
Layer	**Observed Agreement**	**Weighted Kappa**
NFL	0.76	0.33
GCIPL	0.58	0.31
INL	0.73	0.34
OPL	0.84	0.31
ONL	0.87	0.33
Average	0.76	0.32
NORMAL - ORION		
Layer	**Observed Agreement**	**Weighted Kappa**
NFL	0.91	0.54
GCIPL	0.93	0.33
INL	0.98	0.33
OPL	0.76	0.33
ONL	0.91	0.33
Average	0.90	0.38
AMD - HEIDELBERG		
Layer	**Observed Agreement**	**Weighted Kappa**
NFL	0.39	0.12
GCIPL	0.70	0.32
INL	0.41	0.27
OPL	0.61	0.26
ONL	0.70	0.50
Average	0.56	0.29

AMD - ORION		
Layer	**Observed Agreement**	**Weighted Kappa**
NFL	0.61	0.27
GCIPL	0.88	0.73
INL	0.85	0.56
OPL	0.70	0.35
ONL	0.69	0.61
Average	0.74	0.51
DME - HEIDELBERG		
Layer	**Observed Agreement**	**Weighted Kappa**
NFL	0.63	0.66
GCIPL	0.60	0.58
INL	0.70	0.68
OPL	0.43	0.46
ONL	0.30	0.38
Average	0.53	0.55
DME - ORION		
Layer	**Observed Agreement**	**Weighted Kappa**
NFL	0.67	0.50
GCIPL	0.73	0.54
INL	0.63	0.21
OPL	0.46	0.09
ONL	0.40	0.19
Average	0.58	0.30

Supplementary Table 3

Summary of comparison of two automated segmentation softwares

	Proprietary software	Cross-platform software
1. Disclaimer	Not good for pathology segmentation	Not approved for clinical use
2. Layer convention	International Nomenclature	APOSTEL recommendation
3. EDI images	Cannot segment	Can segment
4. Images analyzable	Proprietary/Integrated	Cross platform