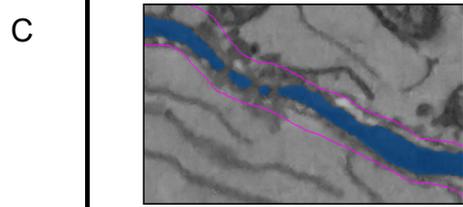
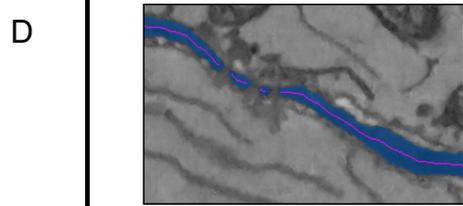


- Denoising
- PD annotation (if needed)



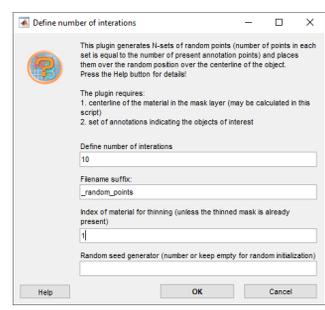
- Masking of cell walls
- Black and white thresholding of the masked areas
- Removing of small objects



- Calculation of the centerline
(This step is shared by all the plugins)

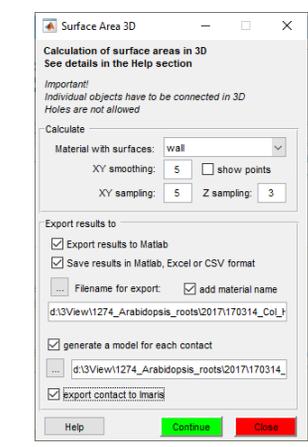
E

*Spatial Control Points
MIB plugin*



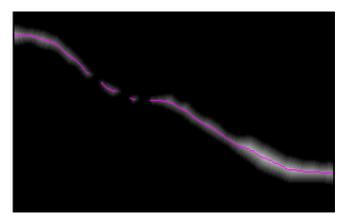
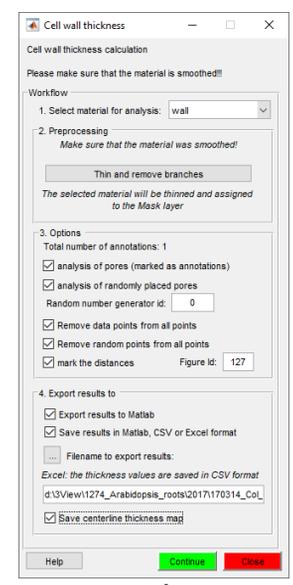
F

*Surface Area 3D
MIB plugin*

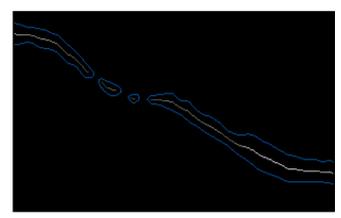


G

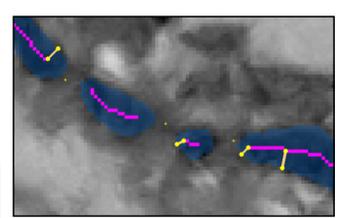
*Cell Wall Thickness
MIB plugin*



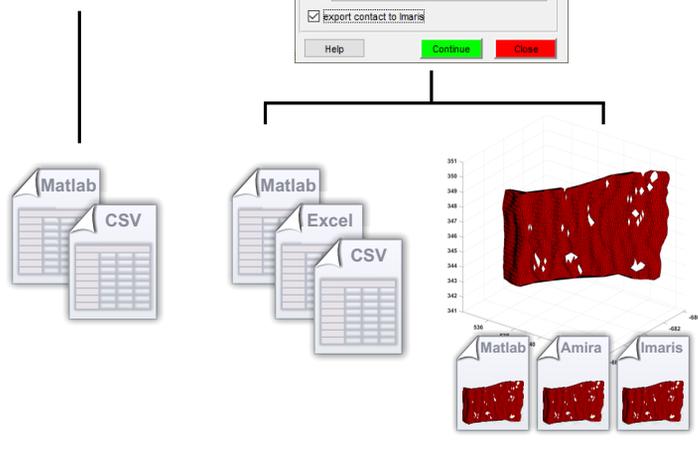
- Distance map



- Centerline distance extraction

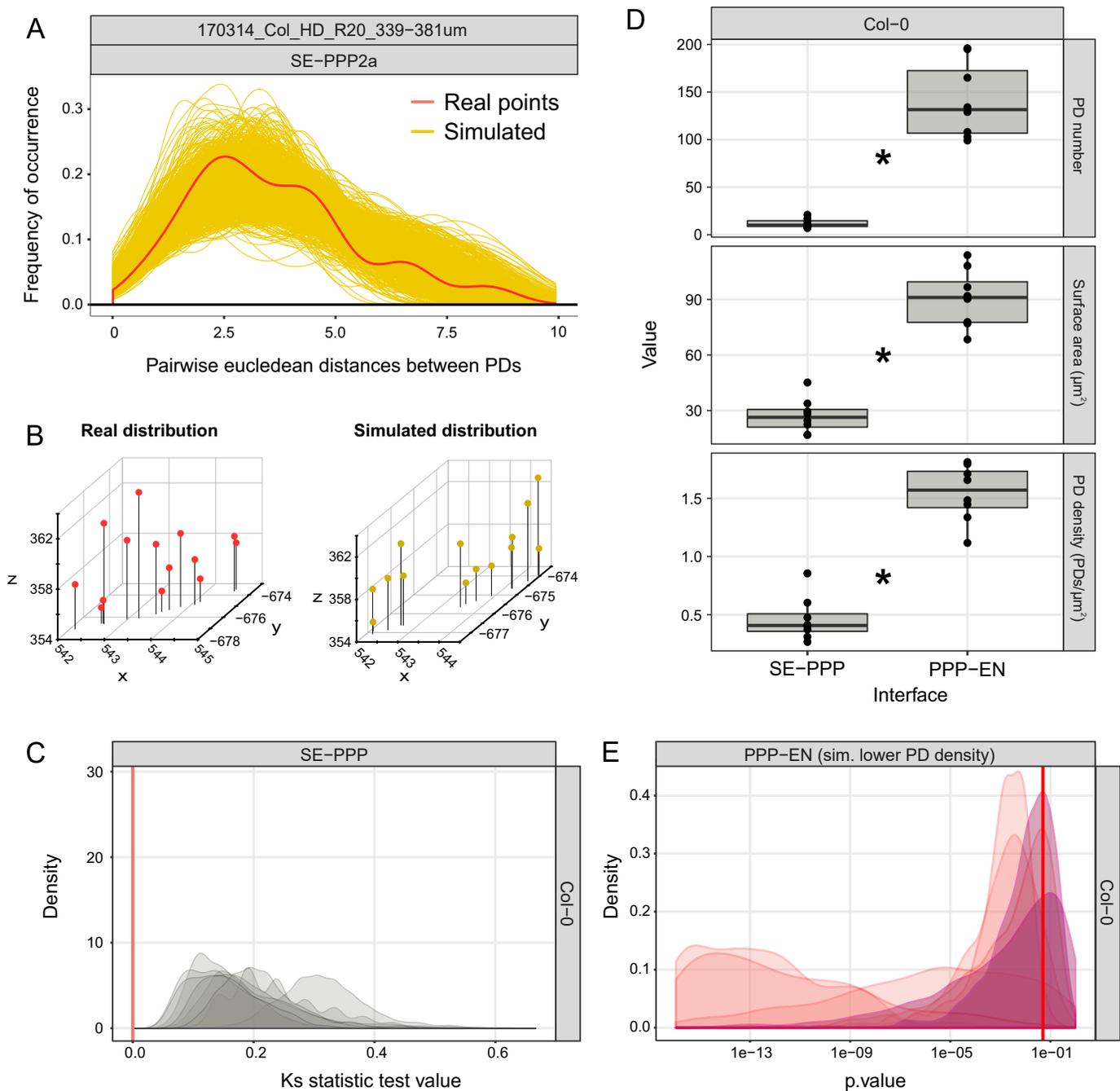


- Thickness calculation and marking at positions of interest



Supp. Fig. 1: Overview of the plugins developed for this paper.

A) Overall view of PPP-EN interface. B) Zoomed in view of the area highlighted in A) after denoising. C) Segmented wall in blue and the underlying mask in pink. D) Calculated midline of the cell wall model. E) User interface and file outputs for the SpatialControlPoints plugin. F) User interface, file and object outputs for the SurfaceArea3D plugin. G) User interface and file outputs for the CellWallThickness plugin. H) Distance map of the segmented wall. I) Thickness values of the midline. J) Yellow lines showing the wall position (and associated half thickness) closest to PD/control points being measured.



Supp. Fig. 2: Analysis of the SE-PPP interface in terms of spatial clustering using SB-EM datasets.

A) Distribution of Euclidean distances between two points at the SE-PPP interface in one example cell. The red line represents distances between PD while each of the yellow lines represents the distances between uniformly distributed control points (in each simulation). B) 3D visualisation of PD positions (red) and the uniformly distributed control positions in one of the simulations (yellow) for the cell. C) Distribution of KS test values for the Col-0 cells. Red bar highlights the 0 value, representing identity between real and simulated distributions. D) Comparison of PD numbers, surface areas and PD densities at the SE-PPP and PPP-EN interfaces. E) Distribution of p-values of KS test at the PPP-EN interface when using a number of PD matching the density at the SE-PPP interface. Red bar highlights the 0.05 value, used as a significance threshold. Cells shaded have mean p-values above 0.05. Statistical comparisons between genotypes were performed using the non parametric Mann-Whitney U test for two samples. Supported differences are highlighted by an * ($p < 0.05$).