



**Supplemental Fig S9. The cocoon shape of the mutant lines that captured by the ultra-depth three-Dimensional (3D) microscope.** The ultra-depth 3D microscope technique can capture the whole image with a larger field of view by image mosaic function in the case of high magnification. When shooting at high magnification, the whole cocoon sample is out of the shooting range, so it is necessary to separate the cocoon into several areas, and carry out three-dimensional composite photography of different areas by moving the loading platform. Finally, a complete three-dimensional image under high magnification condition is formed by image stitching.