

**Supplemental Figure S7:** Examples of inverted color images of (A) centromere (ACA) or (B) telomere (anti RAP1) staining of oocytes used to count the respective signals. The minimum numbers of centromere or telomere spots counted and an example of centromere clusters are provided. Wt cells in leptonema show 40 centromeres since the axes are not yet synapsed, and show between 40 and 80 telomeres in zygonema depending on the status of synapsis. In the example shown, 44 telomere spots are detected, consistent with the advanced zygotene stage. Size bars indicate 10  $\mu$ m.