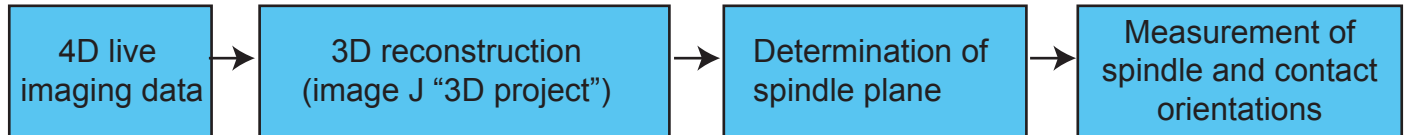


Figure 6

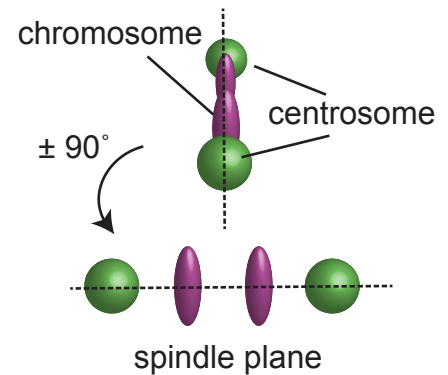
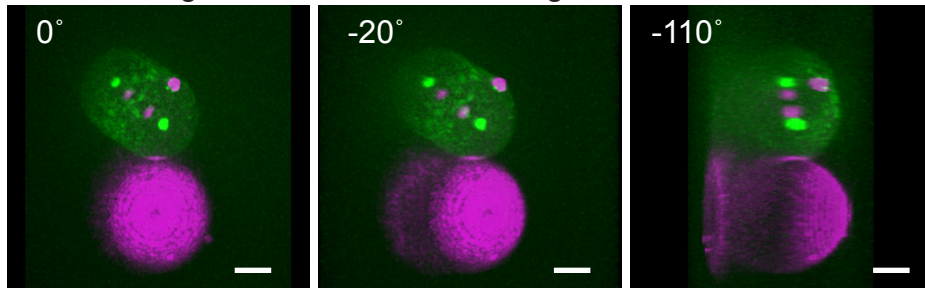
A

Cell division orientation analysis



B

Y- axis tilting of 3D reconstructed images



C

Time series of spindle plane (-20° in above sample)

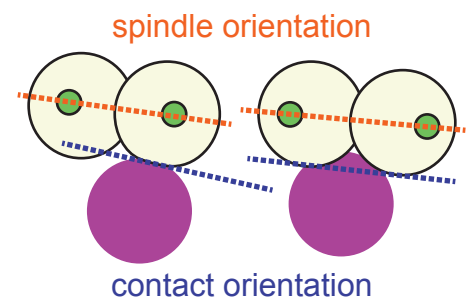
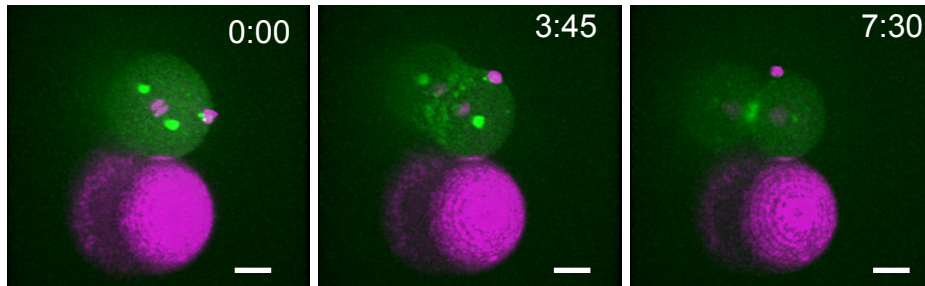


Figure 6. Analysis of cell division orientation

(A) A diagram of cell division orientation analysis. (B) Determination of spindle plane. Left images show an example of a sample. 3D reconstructed 4-D movies were rotated around Y-axis to determine the plane wherein two centrosomes align vertically (right image; right upper schematics). In this example, spindle plane is $\pm 90^\circ$ of 110° (middle image; right bottom schematics). (C) Measurement of spindle orientation relative to the cell-bead contact. Using the images of the spindle plane, spindle orientation after cytokinesis was determined based on angle between lines connecting two centrosomes (orange dotted lines in the right schematics) and cell contact (blue dotted lines). When both daughter cells were attached to the beads, cell-bead contact orientation was the line that passes both contact sites. Scale bars are $10\ \mu\text{m}$. Times are minutes and seconds.