



**Supplementary Figure S1. A.**  $\gamma$ H2AX (red) and ASY1 (green) staining in leptotene cells of *spo11-2* and *topII-1 spo11-2*. **B.** Examples of anaphase II cells with chromatin bridges in *topII-1* and *topII-1 spo11-2*. **C.** Cisplatin exposure effects on somatic development of wt, *topII-1*, *mus81-2* and *topII-1 mus81-2* seedlings. T-test p-value: \*\*<0.01, \*\*\*<0.001. **D.** Representative images of mitotic anaphase cells with chromatin bridges in wt, *topII-1* and *topII-1 mus81-2*. Scale bars: 5  $\mu$ m.