



Figure S19. Expression of *SPO11-2* and *SPO11-3/TOPVIA* homologs in *Thalassiosira weissflogii* during spermatogenesis compared to purely asexually-dividing cultures. For comparison expression of the sexually-induced gene *SIG1* was analyzed in parallel. Small-size sub-clones (below size-threshold for induction of spermatogenesis) of *T. weissflogii* strain CCMP1587 were grown in f/4+Si medium, 20° C, continuous light (120 $\mu\text{mol photons m}^{-2} \text{s}^{-1}$). Exponential cultures were exposed to 10 h of darkness to trigger entry into spermatogenesis and harvested 14 h after return to light, the time when spermatogonial cells enter meiosis. The non-induced control was a sub-clone with cell size above the threshold for induction of spermatogenesis, kept in exponential growth, to ensure absence of meiotic cells. RNA was extracted using the Trizol protocol, purified with a QIAGEN RNA columns with DNase treatment. Quantitative PCR was performed on an iCycler Real Time PCR Detection System (Bio-Rad) and expression was normalized to the expression of the actin gene. Absence of contaminating genomic DNA was verified by lack of amplification in RT- control reactions performed on the same RNA samples.