



Figure S4. Temperature-dependent expression patterns of *NyMBF1* in *Neopyropia yezoensis* sporophytes. Relative mRNA levels at 5, 15, and 25°C were normalized using *GAPDH*, *EF1α*, or *eIF4A* as the reference gene. Significant differences in expression level among the three life cycle generations from triplicate independent replicates as defined by Tukey's test ( $p < 0.05$ ) in two-way ANOVA are shown in Table S4.