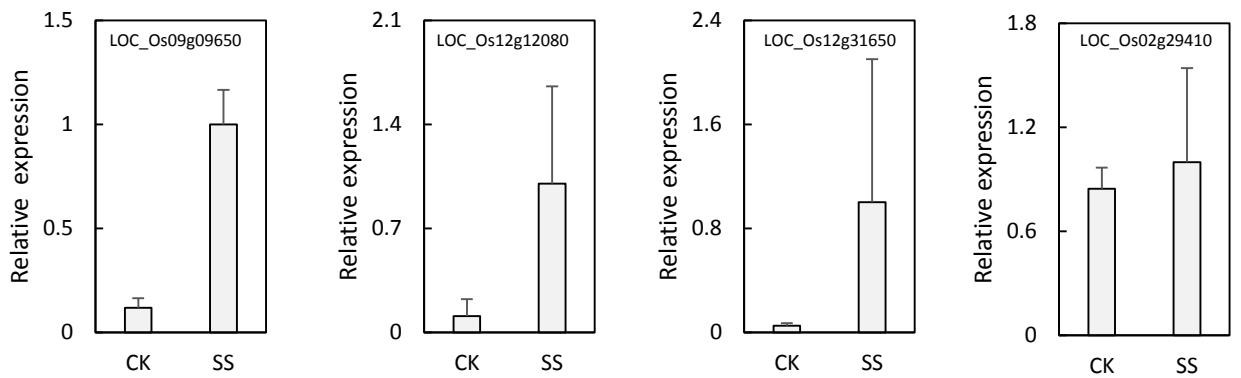
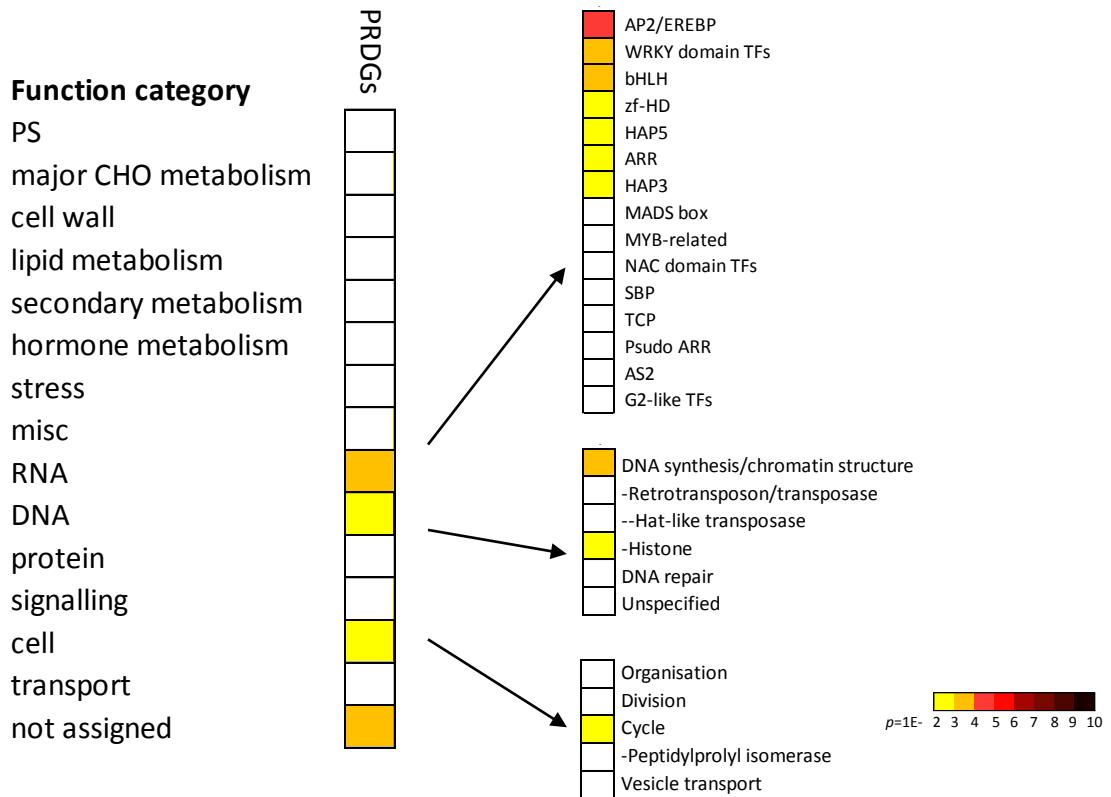


Supplemental Figure 1. Scheme of the heat stress treatment for young seeds after fertilization.



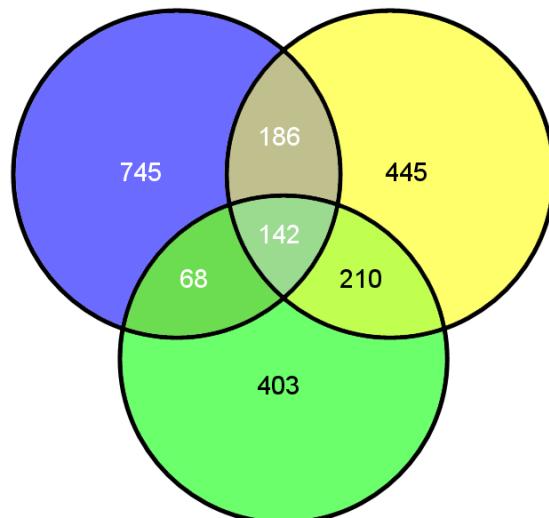
Supplemental Figure 2. Relative expression of four randomly selected TEs in heat-stressed young leaves.



Supplemental Figure 3. MapMan functional category analysis of the PRDGs identified from early developed rice seeds.

A

PDRGs      DEGs under moderate stress

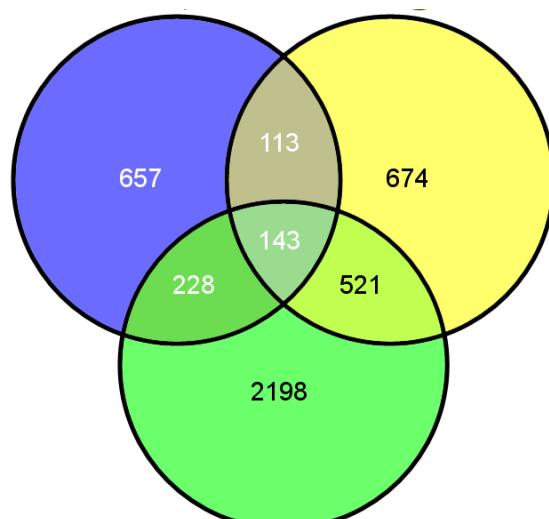


48 HAF

$$(186+142+68)/1140=35\%$$

B

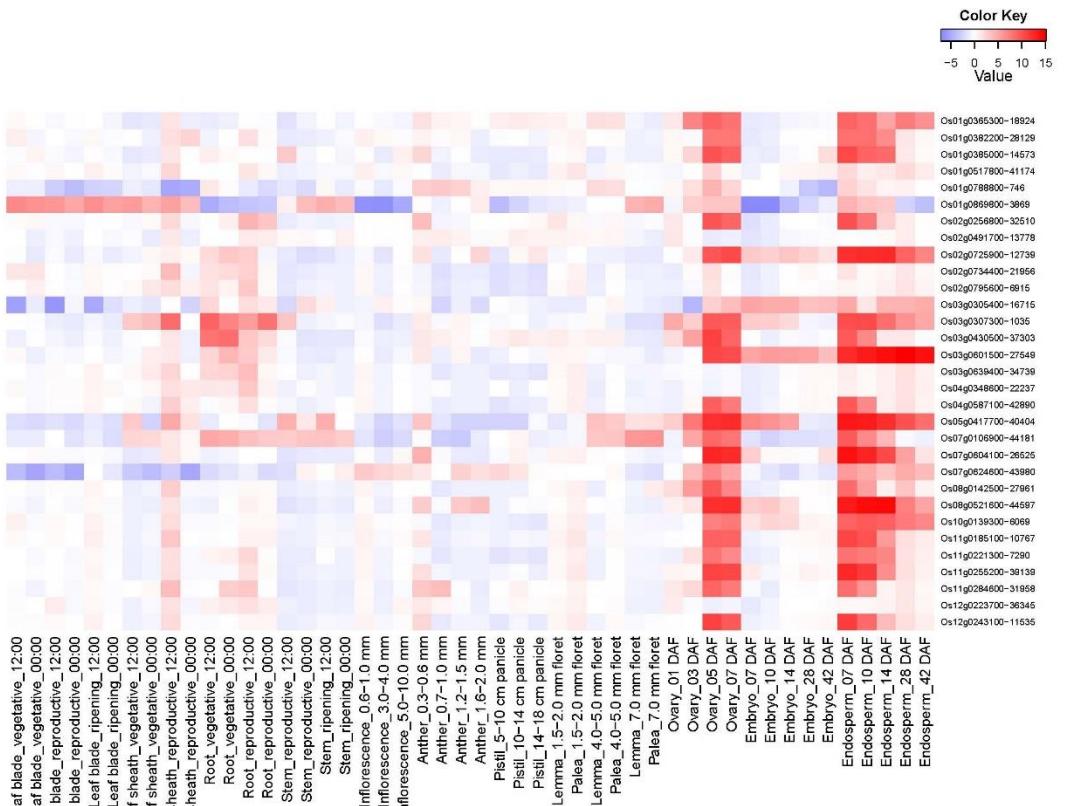
PDRGs      DEGs under moderate stress



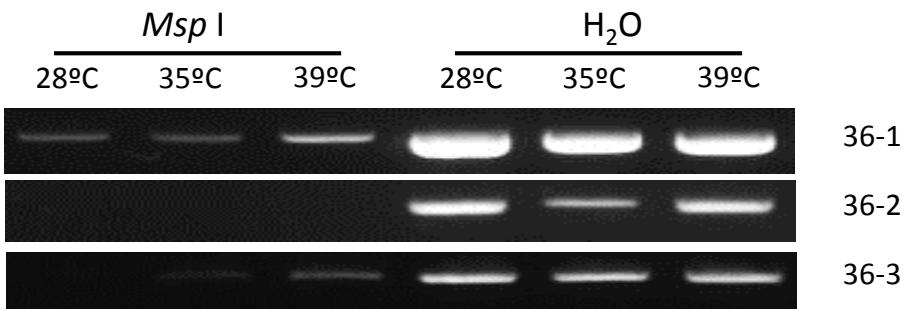
72 HAF

$$(113+143+228)/1140=35\%$$

Supplemental Figure 4. Venn diagrams PDRGs and heat responsive genes at 48 HAF (A) and 72 HAF (B).



Supplemental Figure 5. Expression profiles of the severe stress repressed but moderate stress activated PDRGs in various tissues.

**A****B**

Supplemental Figure 6. Methylation status of OsFBL36 detected by the methylation sensitive restriction endonuclease *Msp*I assay. (A) Scheme of the primers used for PCR amplification. Erected black bars indicate the *Msp*I recognition sites. Gray and white boxes indicate exons and promoter or intron, respectively. (B) PCR products amplified from *Msp*I-digested genomic DNA of the non-, moderate- and severe-stressed rice 72 HAF seeds.