



**Figure S4** (a) The cluster associated with heat response (Cluster 1) based on K-mean clustering analysis. The clustering analysis utilized normalized counts for 1,911 DEGs with variance  $>1.5$  and mean expression abundance  $>4$ . (b) Gene Ontology enrichment for the gene in Cluster 1. Only the GO terms with FDR  $<0.05$  are plotted. (c) Gene family enrichment for genes from Cluster 1. (d) The cluster associated with water deprivation (Cluster 5) based on K-mean clustering analysis (details in Methods). The clustering analysis utilized normalized counts for 1911 DEGs with variance  $>1.5$  and mean expression abundance  $>4$ . (e) Gene Ontology enrichment for the genes in Cluster 5. Only the GO terms with FDR  $<0.05$  are plotted. (f) Gene family enrichment for genes from Cluster 5.