



**Supplementary Figure 5.** Categorization and Clustering analysis of DAMs (the DAMs originate from the most enriched pathway identified in the KEGG analysis). Heat map (left) showing abundance of DAMs in samples. DAMs in green box have high accumulation in earlier stage of grain filling (category 1), DAMs in blue box have high accumulation in later stage of grain filling (category 2). Tree map (right) showing functional categorization of DAMs in respective category. Numbers in color block means the number of metabolites, and the names of the metabolites in category 2 were excluded due to space limitations.