**Supplementary Figure 9. Transcriptional temporal program of the distribution of biological processes over diurnal cycles under short day conditions (8h light / 16h dark).** The white rectangle represent the photoperiod (light period or day) whereas the red filled rectangle corresponds to the skotoperiod (dark period or night). ZTN, Zeitgeber time N, marks the time point N hours after dawn (lights on). Treemaps summarizing the significantly enriched biological processes at each time point. Semantically similar biological processes are grouped together into the same colored rectangles. The most representative biological processes are shown for each rectangle. Specific gene expression profiles are represented for each time point illustrating the different biological processes. Gene expression levels are measured as FPKM (Fragments Per Kilobase of transcript per Million fragments mapped). **(ZT0)** Macromolecule catabolism is the most prominent biological process whose genes reach maximum expression level at dawn under SD conditions. Examples for such genes are *Signal transduction Histidine Kinase* (*HK*, *ostta09g02190*), *Syntaxin/epimorphin* (*STX*, *ostta12g01130*), *Ubiquitin Fusion Degradation protein* (*UFD*, *ostta09g00750*), *Beta amylase* (*BAM*, *ostta03g03180*), *AAA protease FtsH* (*FtsH*, *ostta10g03240*) and *Ubiquitin carboxyl-terminal hydrolase* (*UBP*, *ostta11g01450*). **(ZT4)** Photosynthesis is the most prominent biological process whose genes reach maximum expression level at midday, four hours after dawn under SD conditions. Examples for such genes are *Photosystem II subunit P* (*PsbP, ostta01g03170*), *Photosystem I subunit L* (*PsaL, ostta02g00580*), *Photosystem II subunit X* (*PsbX*, *ostta02g02560*), *Photosystem I subunit E* (*PsaE*, *ostta02g03860*), *Photosystem I subunit F* (*PsaF*, *ostta04g01790*) and *Photosystem II subunit R* (*PsbR*, *ostta05g04560*). **(ZT8)** DNA replication and chromosome organization are two prominent biological processes whose genes reach maximum expression level at dusk eight hours after dawn under SD conditions. Examples for such genes are *Minichromosome Maintenance 6* (*MCM6*, *ostta01g02580*), *Minichromosome Maintenance 9* (*MCM9*, *ostta05g01680*), *Proliferating Cell Nuclear Antigen* (*PCNA*, *ostta06g02890*), *Cell Division Cycle protein 45* (*CDC45*, *ostta04g04640*), *Topoisomerase 6 subunit B* (*TOP6B*, *ostta05g02940*) and *DNA Polymerase Alpha subunit B* (*POLAB*, *ostta08g03680*). **(ZT12)** RNA processing and ribosome biogenesis are the two most prominent biological processes whose genes reach maximum expression level early during the night four hours after dusk under SD conditions. Examples for such genes involved in ribosome biogenesis are *U3 small nucleolar RNA-associated protein 14* (*Utp14, ostta04g00770*), *Ribosome Biogenesis Factor BMS1* (*BMS1, ostta05g01080*), *M-phase phosphoprotein 10* (*Mpp10p, ostta05g01450*), *U3 small nucleolar RNA-associated protein 11* (*Utp11, ostta06g01560*), *U3 small nucleolar RNA-associated protein 12* (*Utp12, ostta08g03090*) and *ribosome biogenesis regulator 1* (*RRS1, ostta15g01610*). **(ZT16)** Translation is the most prominent biological process whose genes reach maximum expression level during midnight eight hours before dawn under SD conditions. Examples for such genes are *eukaryotic Initiation Factor 2* (*eIF2, ostta03g02100*), *translation elongation factor P* (*YeiP, ostta03g03015*), *Elongation Factor 1 B* (*EF1B*, *ostta04g00090*), *alanyl-tRNA synthase II* (*aaRSII*, *ostta07g00280*), *proline-tRNA ligase* (*proS*, *ostta15g00620*) and isoleucyl, leucyl and valyl-tRNA synthetase (*I/L/VRSs*, *ostta06g00460*). **(ZT20)** Carbohydrate biosynthesis is the most prominent biological process whose genes reach maximum expression level at the end of the night four hours before dawn under SD conditions. Examples for such genes are *Starch Branching Enzyme* (*SBE*, *ostta03g00870*), *ADP-glucose Pyrophosphorylase Small subunit* (*APS*, *ostta07g03070*), (FBA, ostta01g03040), (PUL, ostta01g03050), (GALM, ostta01g05290) and (UGE, ostta08g01570).