**Supplementary Figure 8. Transcriptional temporal program of the distribution of biological processes over diurnal cycles under long day conditions (16h light / 8h dark).** The white rectangle represent the photoperiod (light period or day) whereas the blue 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)** RNA processing and ribosome biogenesis are the two most prominent biological processes whose genes reach maximum expression level at dawn under LD conditions. Examples for such genes involved in ribosome biogenesis are *U3 small nucleolar RNA-associated protein 14* (*ostta04g00770*, *Utp14*), *Ribosome Biogenesis Factor BMS1* (*ostta05g01080*, *BMS1*), *M-phase phosphoprotein 10* (*ostta05g01450*, *Mpp10p*), *U3 small nucleolar RNA-associated protein 11* (*ostta06g01560*, *Utp11*), *U3 small nucleolar RNA-associated protein 12* (*ostta08g03090*, *Utp12*) and *ribosome biogenesis regulator 1* (*ostta15g01610*, *RRS1*). **(ZT4)** Translation is the most prominent biological process whose genes reach maximum expression level early in the morning four hours after dawn under LD conditions. Examples for such genes are *eukaryotic Initiation Factor 2* (*ostta03g02100*, *eIF2*), *translation elongation factor P* (*ostta03g03015*, *YeiP*), (ostta04g00090, EF1B), (ostta07g00280, aaRSII), (ostta15g00620, proS), (ostta06g00460, I/L/VRSs). **(ZT8)** Photosynthesis is the most prominent biological process whose genes reach maximum expression level at midday, eight hours after dawn under LD conditions. Examples for such genes are (ostta01g03170, PsbP), (ostta02g00580, PsaL), (ostta02g02560, PsbX), (ostta02g03860, PsaE), (ostta04g01790, PsaF) and (ostta05g04560, PsbR). **(ZT12)** DNA replication and chromosome organization are two prominent biological processes whose genes reach maximum expression level late during the day four hours before dusk under LD conditions. Examples for such genes are (ostta01g02580, MCM6), (ostta05g01680, MCM9), (ostta06g02890, PCNA), (ostta04g04640, CDC45), (ostta05g02940, TOP6B), (ostta08g03680, POLAB). **(ZT16)** Intracellular transport and cellular respiration are the two most prominent biological processes whose genes reach maximum expression level at dusk under LD conditions. Examples for such genes are (ostta01g04440, CLC), (ostta03g05300, COPD), (ostta05g00860, SAR), (ostta08g01930, VWA), (ostta11g02920, STX), (ostta14g02210, Nup133). **(ZT20)** Cellular aminoacid metabolic process is most prominent biological process whose genes reach maximum level of expression level at midnight four hours before dawn under LD conditions. Examples for such genes are (ostta06g03270, DAHP), (ostta02g03980, DapF), (ostta03g03860, Acn), (ostta16g01780, pyrH), (ostta11g00540, ALS), (otta18g01010, ADC).

RNA processing and ribosome biogenesis are the two most prominent biological processes enriched in the genes exhibiting rhythmicity under alternating light/dark cycles and constant dark. **(B), (C), (D) and (E)** Gene expression profiles under long day (LD, 16h light / 8h dark, blue) / constant light (LL) (top left), LD / constant dark (DD) (top right), short day conditions (SD, 8h light / 16h dark, red) / LL (bottom left) and SD / DD conditions (bottom right) for *U3 small nucleolar RNA-associated protein 14* (*Utp14*, *ostta04g00770*, **B**), *M-phase phosphoprotein 10* (*Mpp10p*, *ostta05g01450*, **C**), *U3 small nucleolar RNA-associated protein 11* (*Utp11,*  *ostta06g01560*, **D**) and *ribosome biogenesis regulator 1* (*RRS1*, *ostta15g01610*, **E**). Gene expression levels are measured as FPKM (Fragments Per Kilobase of transcript per Million fragments mapped). These genes involved in ribosome biogenesis exhibit rhythmic gene expression patterns under alternating ligh/dark cycles that are maintained under DD. Nevertheless, these genes present flat gene expression profiles under LL indicating that their rhythmic expression requires as input a dark period.