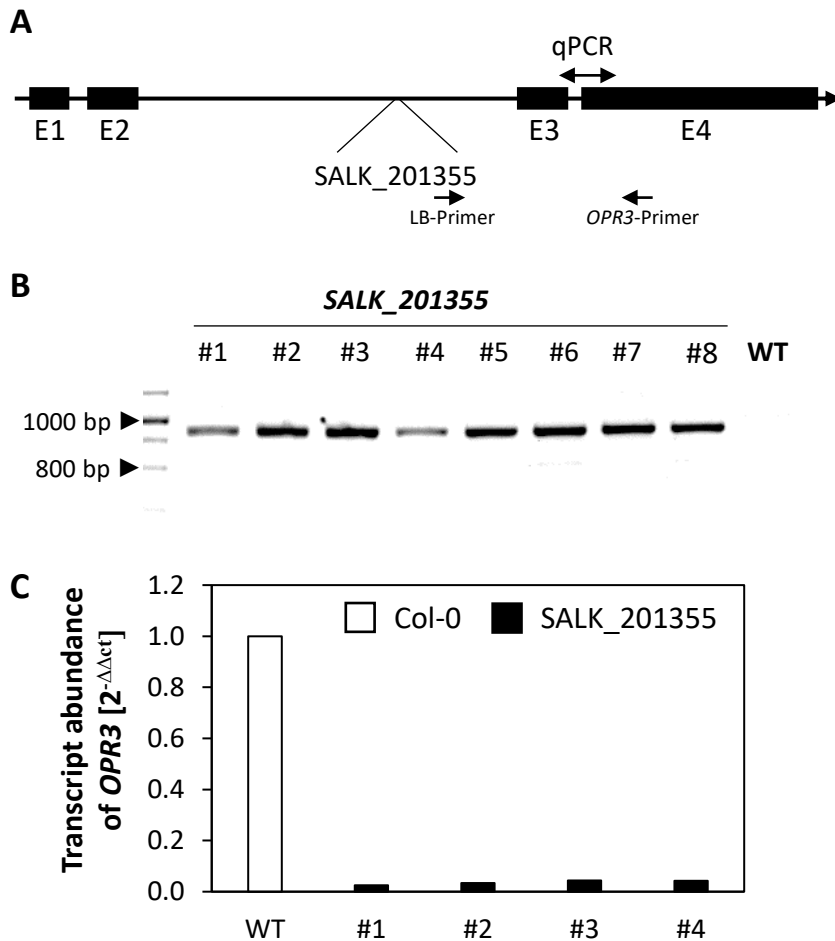


Cold-priming causes dampening of oxylipin biosynthesis and signalling during the early cold- and light-triggering response of *Arabidopsis thaliana*

Andras Bittner, Bettina Hause and Margarete Baier

Suppl. Fig. S1

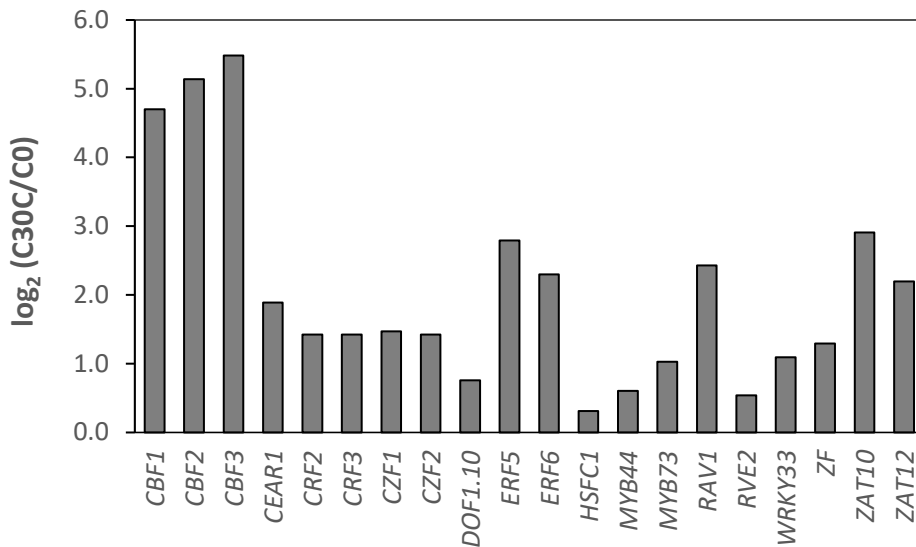


Suppl. Fig. S1: Genotyping and characterization of the *OPR3-T-DNA* insertion line *SALK_201355*: **A)** The T-DNA is inserted in the intron between exon 2 and exon 3. The black arrows show the primer position for qPCR-based *OPR3* transcript analysis and for PCR-based genotyping with an *OPR3*-specific and the T-DNA-specific left border primer (LB). **B)** For identity checking, PCR reaction were performed with the T-DNA-specific left-border primer (LB) and the gene-specific *OPR3*-primer and DNA of 8 independent *SALK_201355* plants and one wild type Col-0 plant. The mutant allele gave the expected product of 900 base pairs (bp). **C)** The transcript abundance of *OPR3* was analysed in Col-0 (grey) and four homozygote *SALK_201355* plants (green) by quantitative qPCR analysis. The transcript levels were normalized against the transcript abundance of the reference gene *YLS8*.

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Suppl. Fig. S2

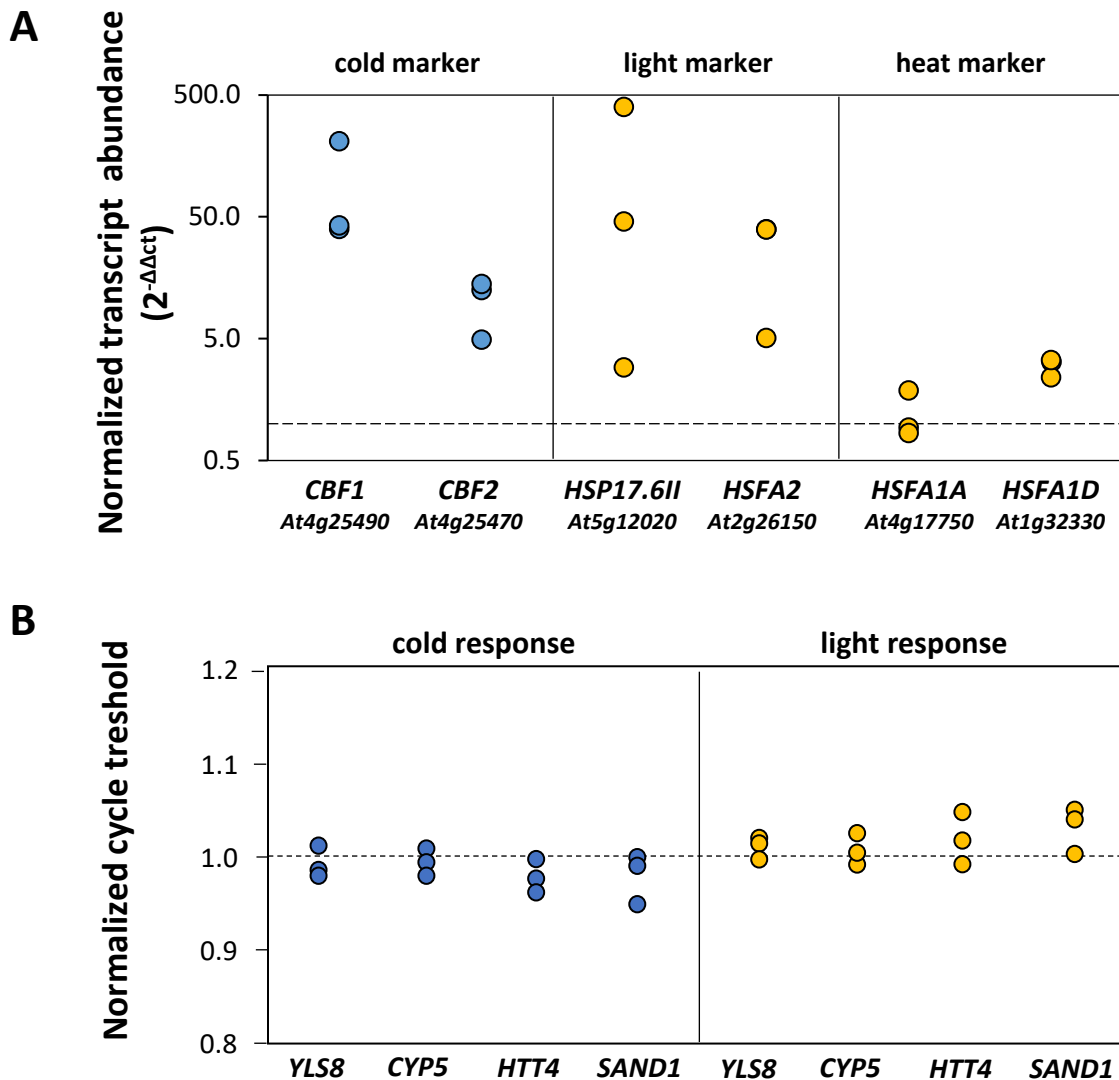


Suppl. Fig. S2: Relative transcript accumulation for 20 of the genes identified by Park *et al.* (2015) as 'first-wave' cold-induced genes and represented with an FPKM higher than 0.5 in our data set as observed after 30 min of cold-triggering.

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Suppl. Fig. S3

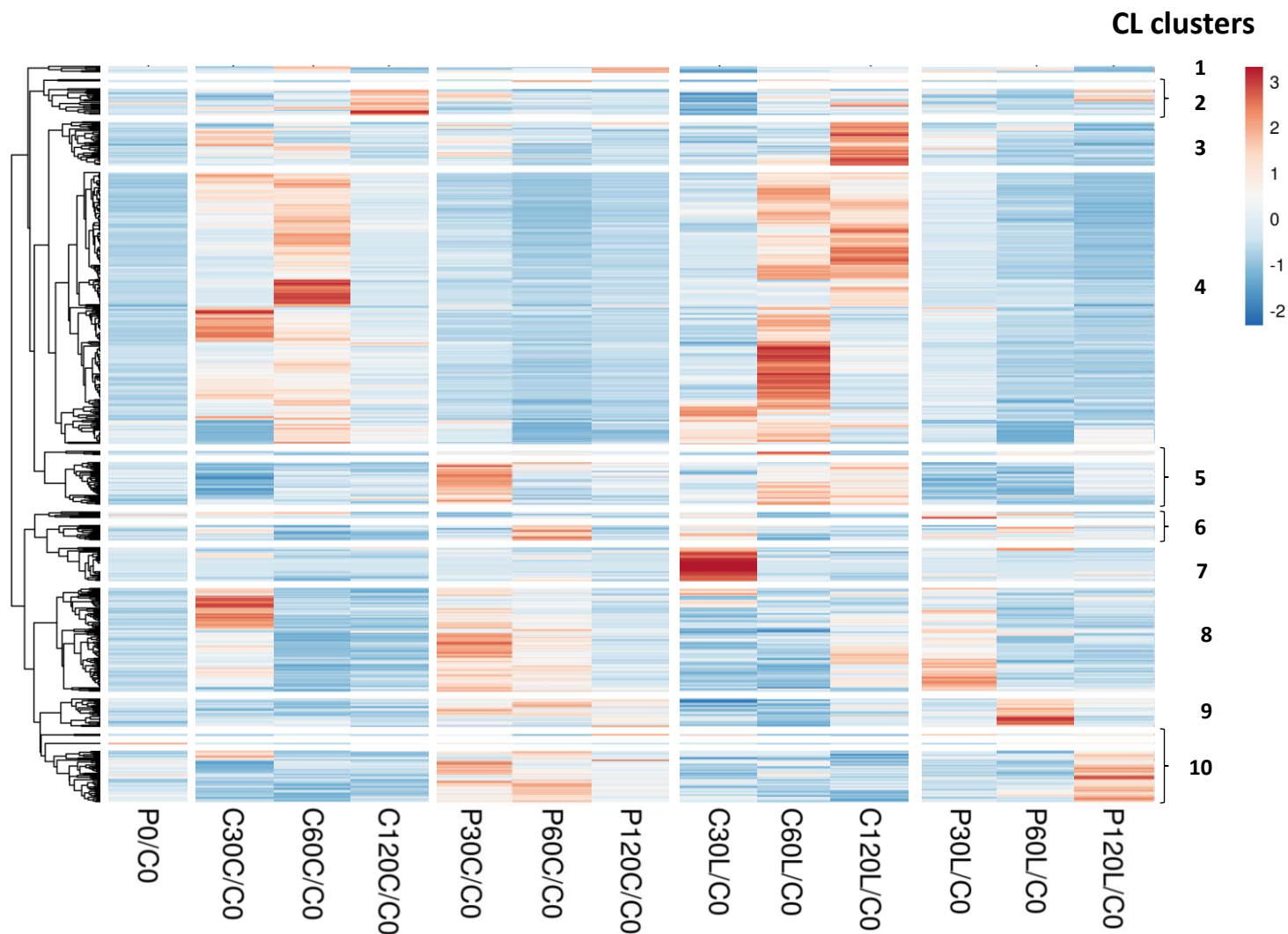


Suppl. Fig. S3: Transcript abundances of stress-responsive and reference genes as determined by qPCR to confirm the reliability of the RNA-seq data: A) Transcript abundances of the cold responsive genes *CBF1* and *CBF2*, the excess light responsive genes *HSP17.6II* and *HSFA2* and of the non-heat filtered light responsive genes were analysed in four-week-old plants, which were either exposed for 60 min to 4°C (blue) or to heat-filtered excess light (800 μmol m⁻² s⁻¹, yellow circle). The transcript values were normalized on the transcript abundances of *YLS8* and standardized to the transcript abundances in control plants (n=3) **B)** Transcript abundances of four reference genes, namely *YLS8*, *CYP5*, *HTT4* and *SAND1*, were analysed in untreated control plants and after 60 min in the cold or in high-light. The transcript abundances are shown as cycle-thresholds relative to the control cycle threshold (n=3).

Cold-priming causes dampening of oxylipin biosynthesis and signalling during the early cold- and light-triggering response of *Arabidopsis thaliana*

Andras Bittner¹, Bettina Hause² and Margarete Baier^{1*}

Suppl. Fig. S4A

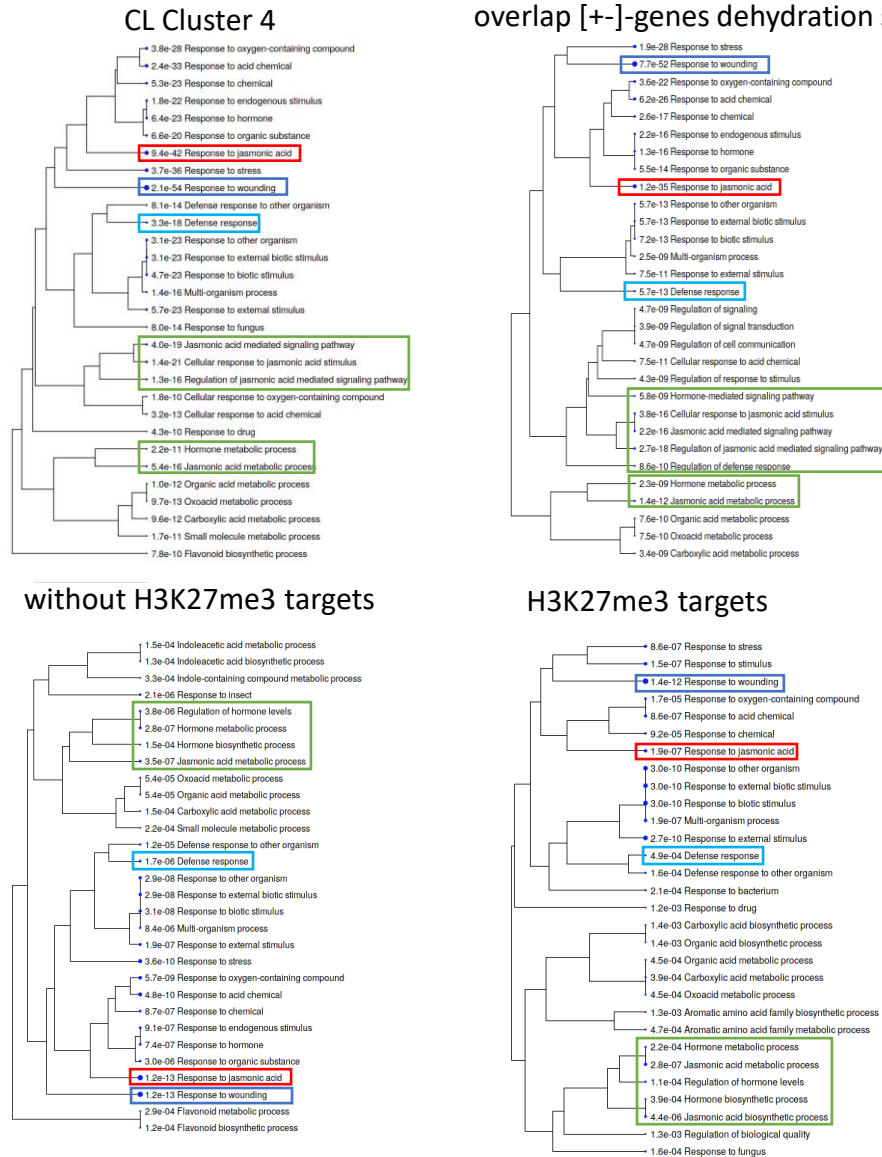


Suppl. Fig. 4A: Cluster analysis of genes with at least 1.5-fold priming effects in the cold and in the light. Mean-centered heatmap and cluster-definition as obtained by ClustVis with the C0-normalized FPKM data listed in Suppl. Tab. S9.

Cold-priming causes dampening of oxylipin biosynthesis and signalling during the early cold- and light-triggering response of *Arabidopsis thaliana*

Andras Bittner¹, Bettina Hause² and Margarete Baier^{1*}

Suppl. Fig. S4B



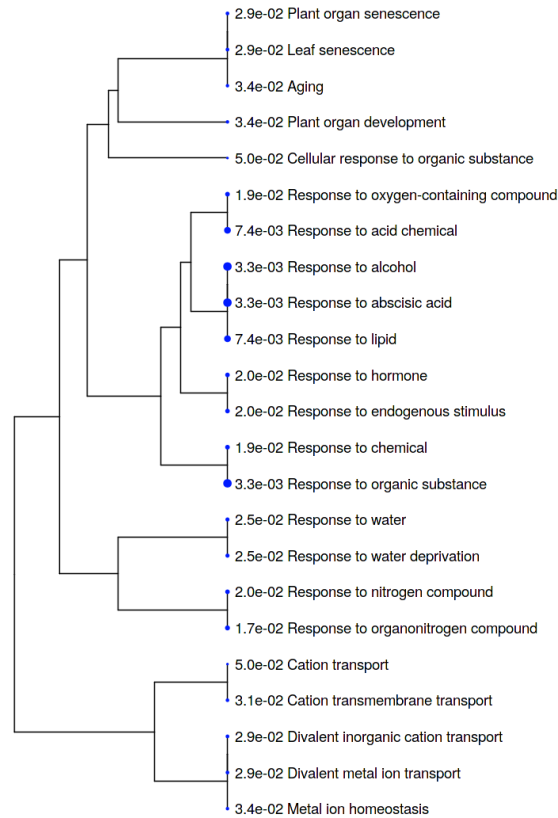
Suppl. Fig. 4B: Results on GO-term analysis for functional categories on the CL cluster 4: all genes (top left), genes overlapping with the [+ -] cluster of dehydration priming-responsive genes (top right), CL cluster 4 genes with are no H3K27me3 targets (bottom left) and the H3K27me3 target genes of CL cluster 4.

Cold-priming causes dampening of oxylipin biosynthesis and signalling during the early cold- and light-triggering response of *Arabidopsis thaliana*

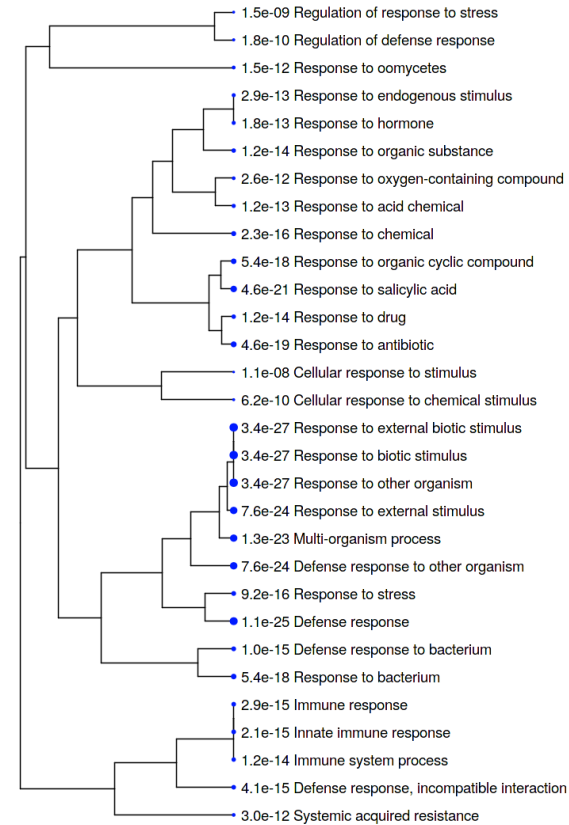
Andras Bittner¹, Bettina Hause² and Margarete Baier^{1*}

Suppl. Fig. S4C

CL Cluster 6



CL Cluster 7



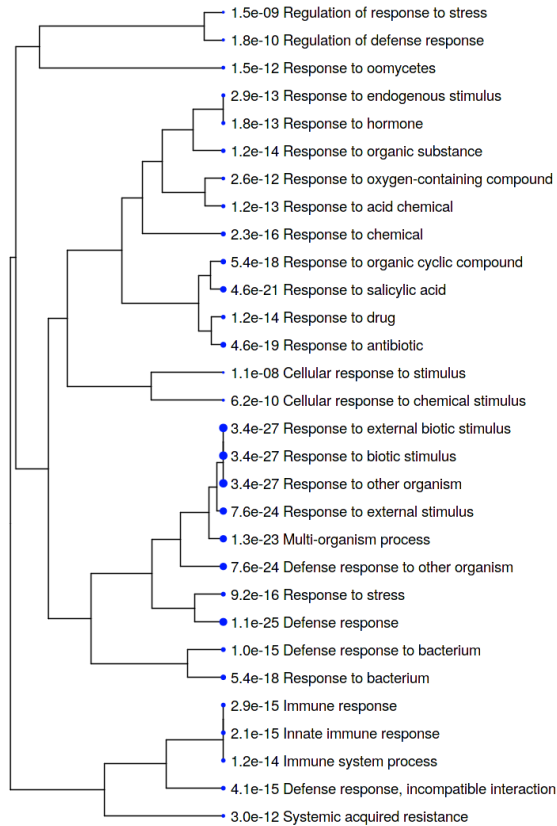
Suppl. Fig. S4C: Results on GO-term analysis for functional categories on the CL cluster 6 and 7.

Cold-priming causes dampening of oxylipin biosynthesis and signalling during the early cold- and light-triggering response of *Arabidopsis thaliana*

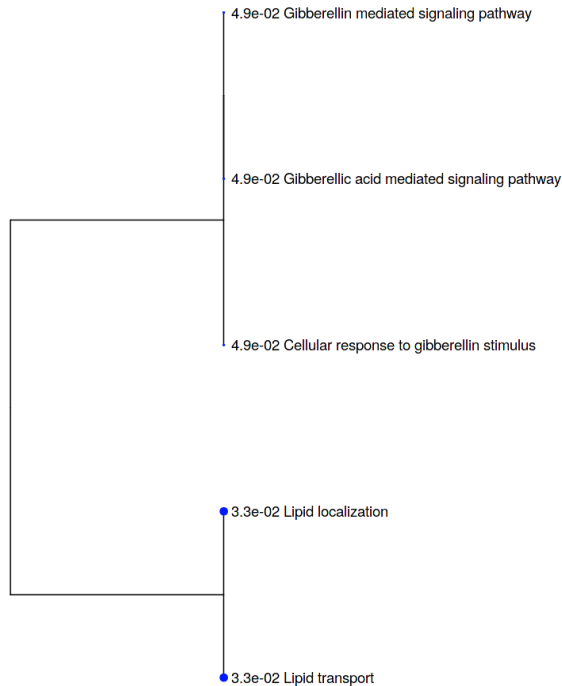
Andras Bittner¹, Bettina Hause² and Margarete Baier^{1*}

Suppl. Fig. S4D

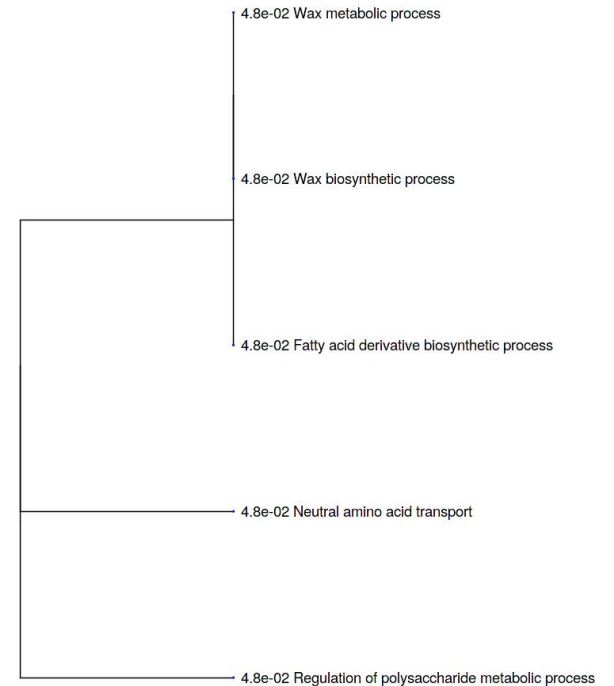
CL Cluster 8



CL Cluster 9



CL Cluster 10

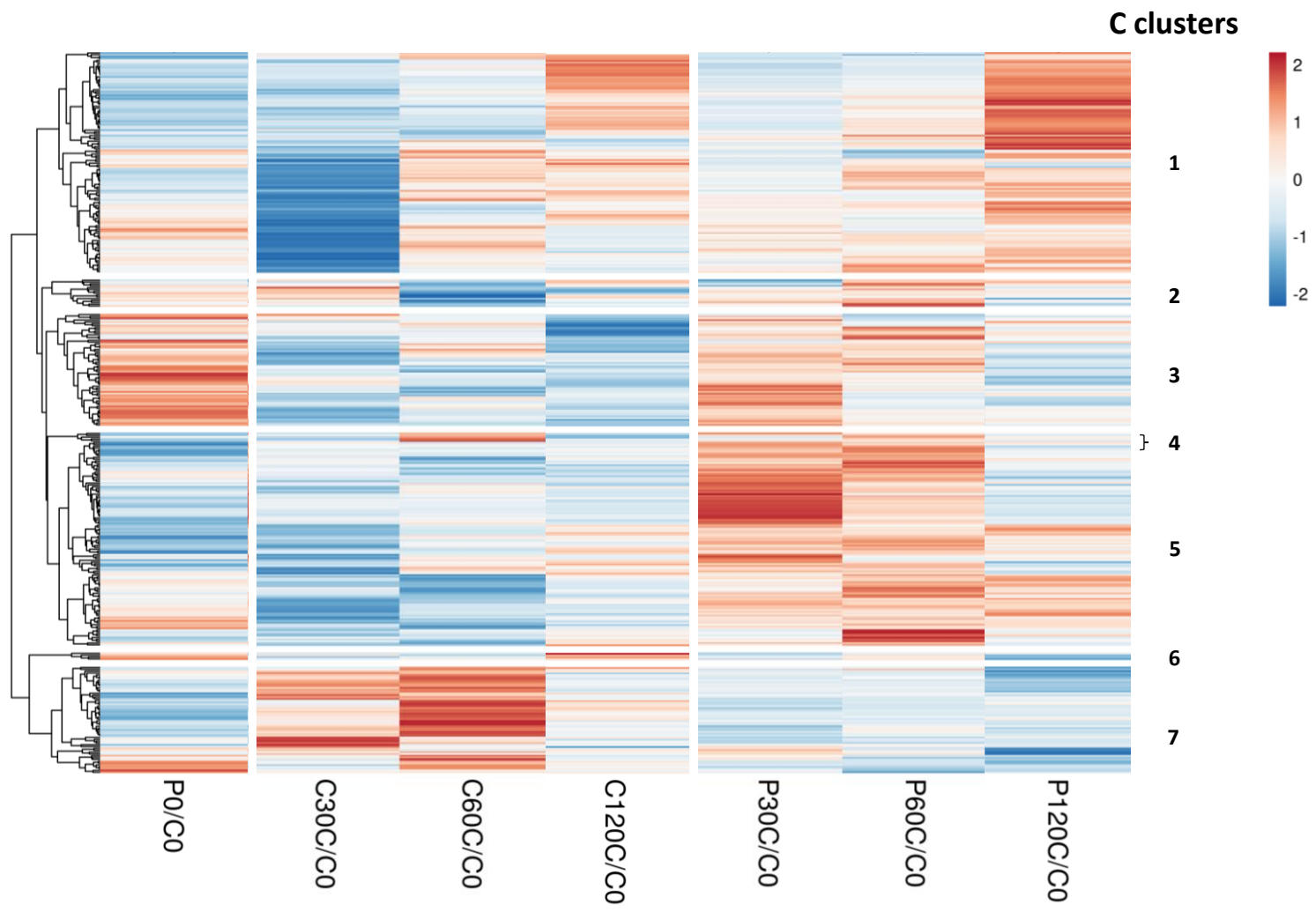


Suppl. Fig. S4D: Results on GO-term analysis for functional categories on the CL clusters 8, 9 and 10.

Cold-priming causes dampening of oxylipin biosynthesis and signalling during the early cold- and light-triggering response of *Arabidopsis thaliana*

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Suppl. Fig. S5A

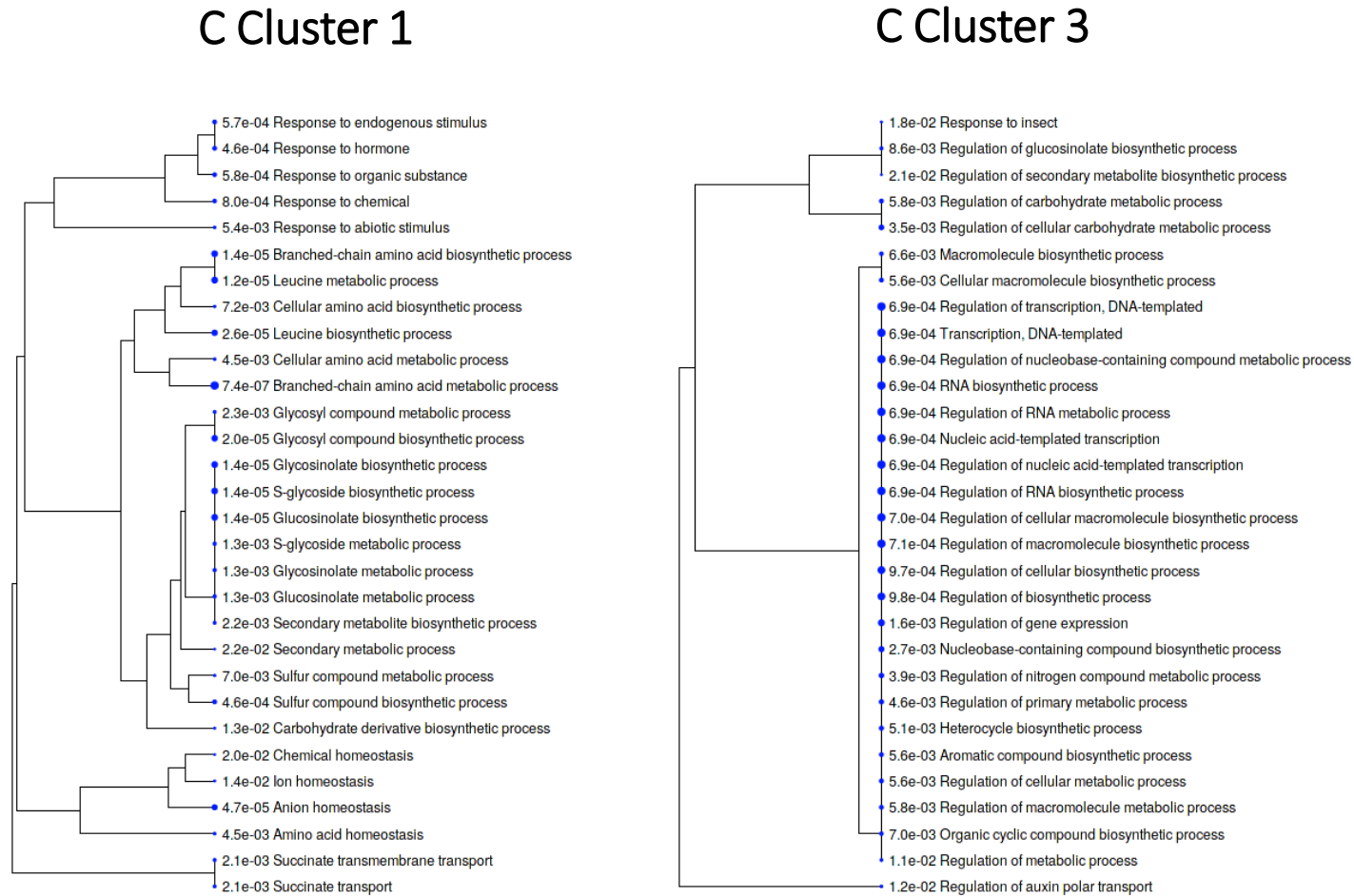


Suppl. Fig. S5A: Cluster analysis of genes with at least 1.5-fold priming effects in the cold and weaker priming effects in the light. Mean-centered heatmap and cluster-definition as obtained by ClustVis with the C0-normalized FPKM data listed in Suppl. Tab. S7.

Cold-priming causes dampening of oxylipin biosynthesis and signalling during the early cold- and light-triggering response of *Arabidopsis thaliana*

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Suppl. Fig. S5B



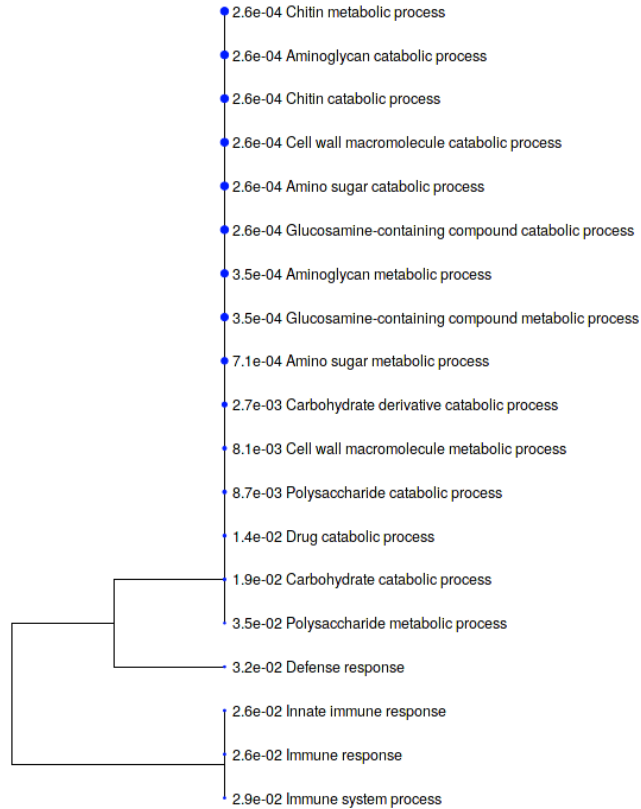
Suppl. Fig. S6B: Results on GO-term analysis for functional categories on the C cluster 1 and 3.

Cold-priming causes dampening of oxylipin biosynthesis and signalling during the early cold- and light-triggering response of *Arabidopsis thaliana*

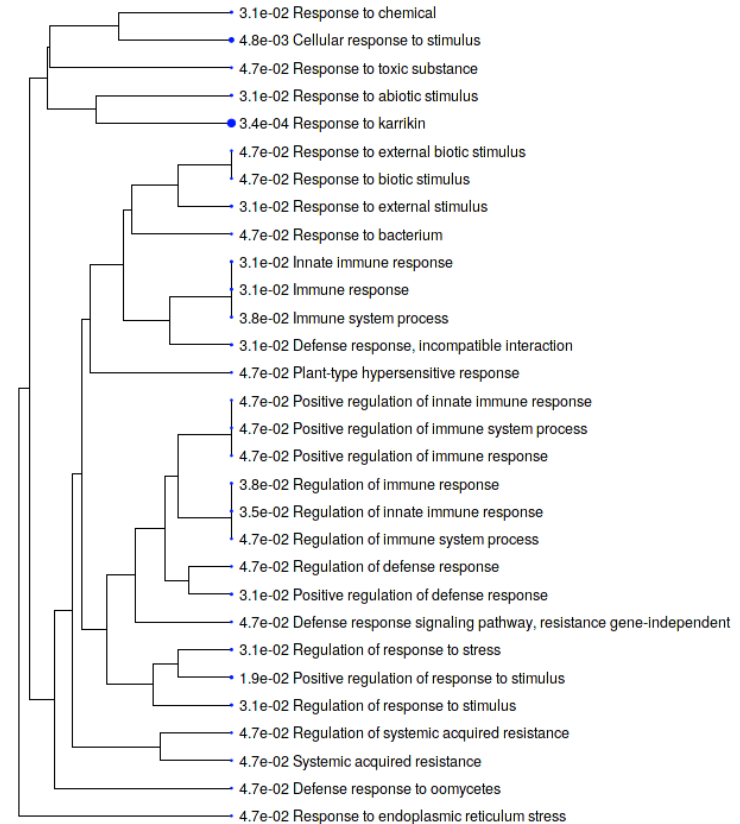
Andras Bittner¹, Bettina Hause² and Margarete Baier^{1*}

Suppl. Fig. S5C

C Cluster 4



C Cluster 5



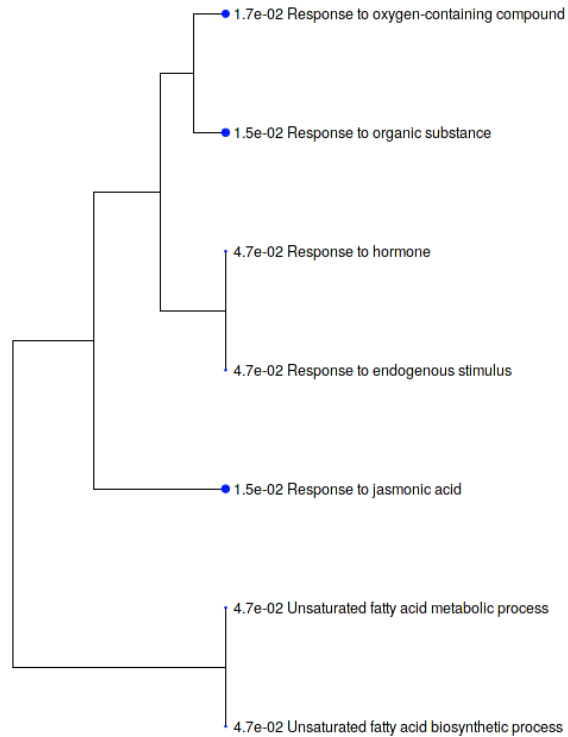
Suppl. Fig. S5C: Results on GO-term analysis for functional categories on the C cluster 4 and 5.

Cold-priming causes dampening of oxylipin biosynthesis and signalling during the early cold- and light-triggering response of *Arabidopsis thaliana*

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Suppl. Fig. S5D

C Cluster 6

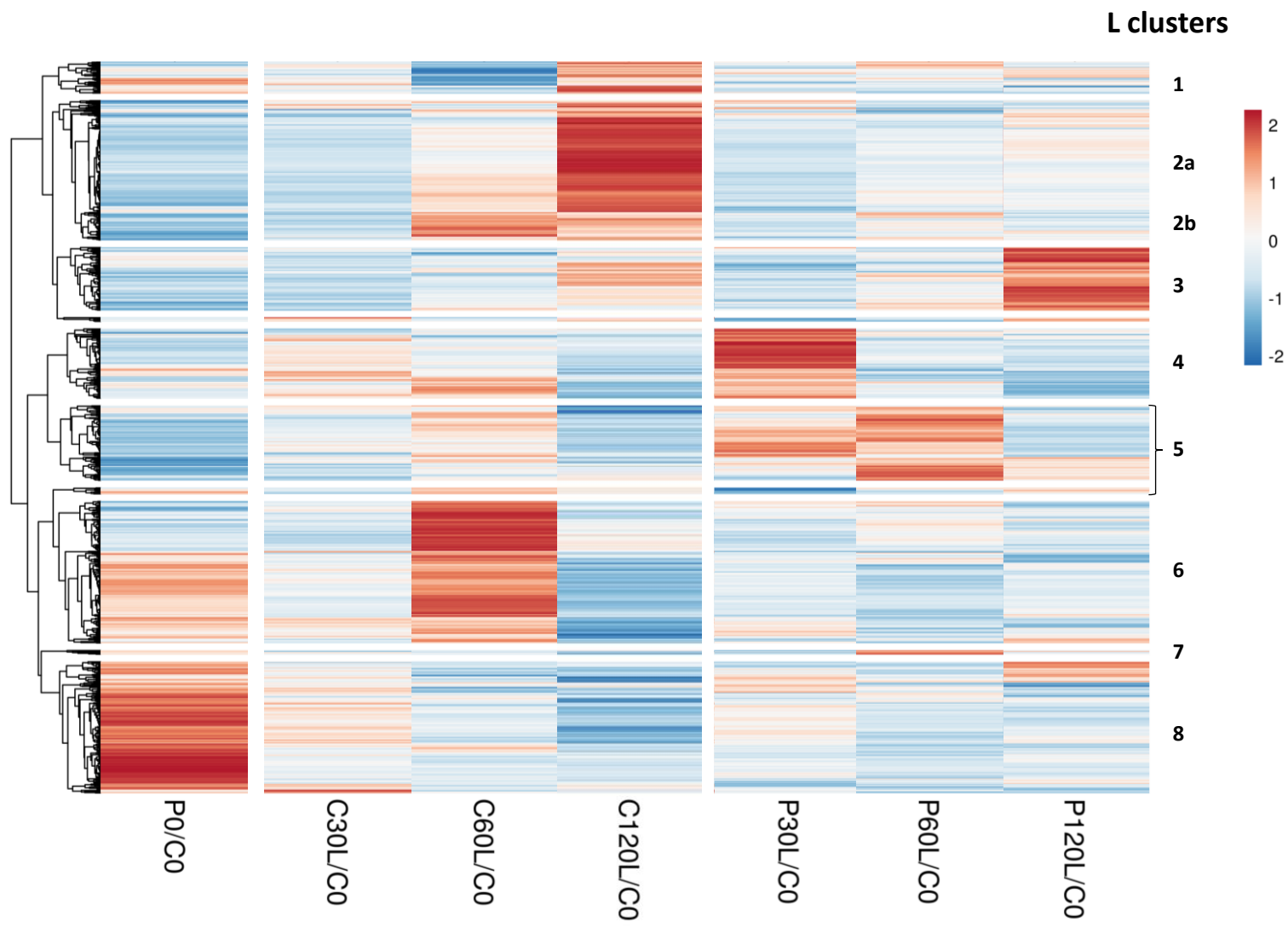


Suppl. Fig. S5D: Results on GO-term analysis for functional categories on the C cluster 6.

Cold-priming causes dampening of oxylipin biosynthesis and signalling during the early cold- and light-triggering response of *Arabidopsis thaliana*

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Suppl. Fig. S6A

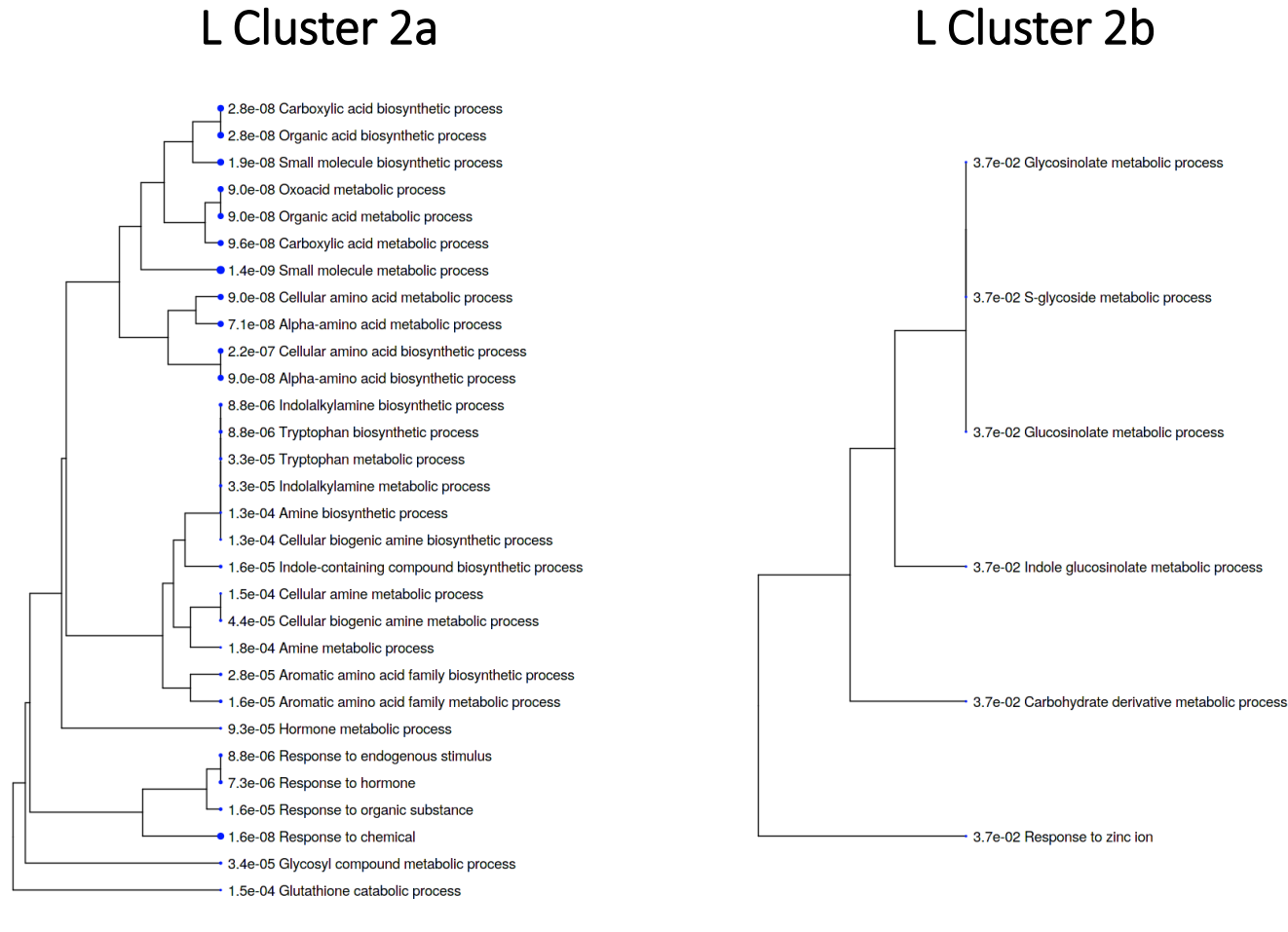


Suppl. Fig. S6A: Cluster analysis of genes with at least 1.5-fold priming effects in the light and weaker priming effects in the cold. Mean-centered heatmap and cluster-definition as obtained by ClustVis with the C0-normalized FPKM data listed in Suppl. Tab. S8.

Cold-priming causes dampening of oxylipin biosynthesis and signalling during the early cold- and light-triggering response of *Arabidopsis thaliana*

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Suppl. Fig. S6B



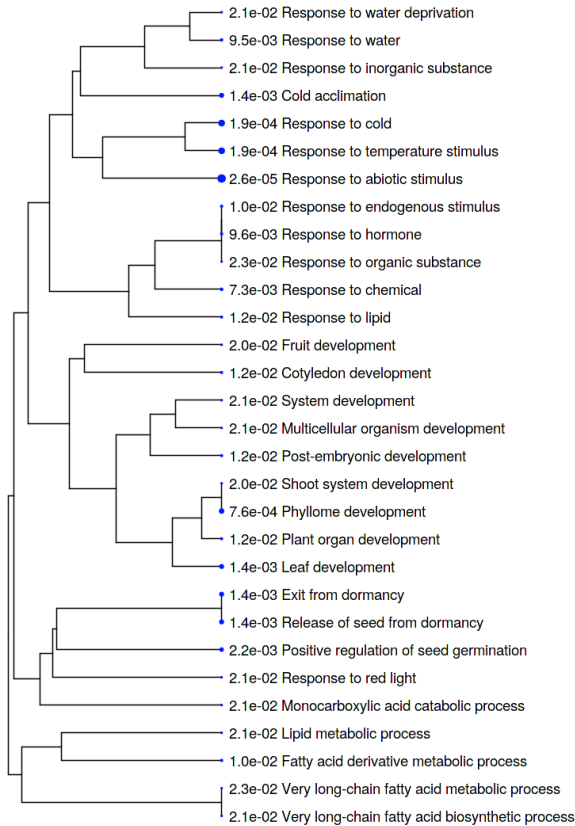
Suppl. Fig. S6B: Results on GO-term analysis for functional categories on the L cluster 2a and 2b.

Cold-priming causes dampening of oxylipin biosynthesis and signalling during the early cold- and light-triggering response of *Arabidopsis thaliana*

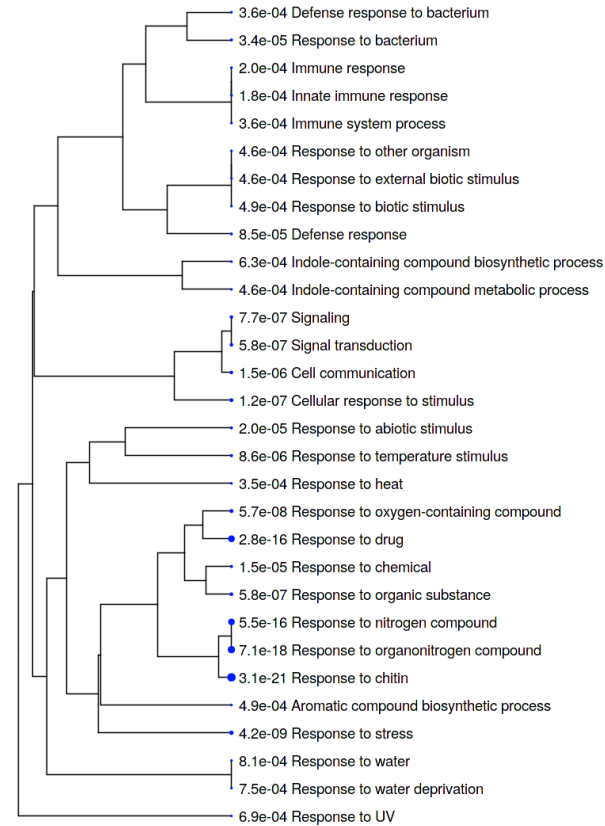
Andras Bittner¹, Bettina Hause² and Margarete Baier^{1*}

Suppl. Fig. S6C

L Cluster 3



L Cluster 4

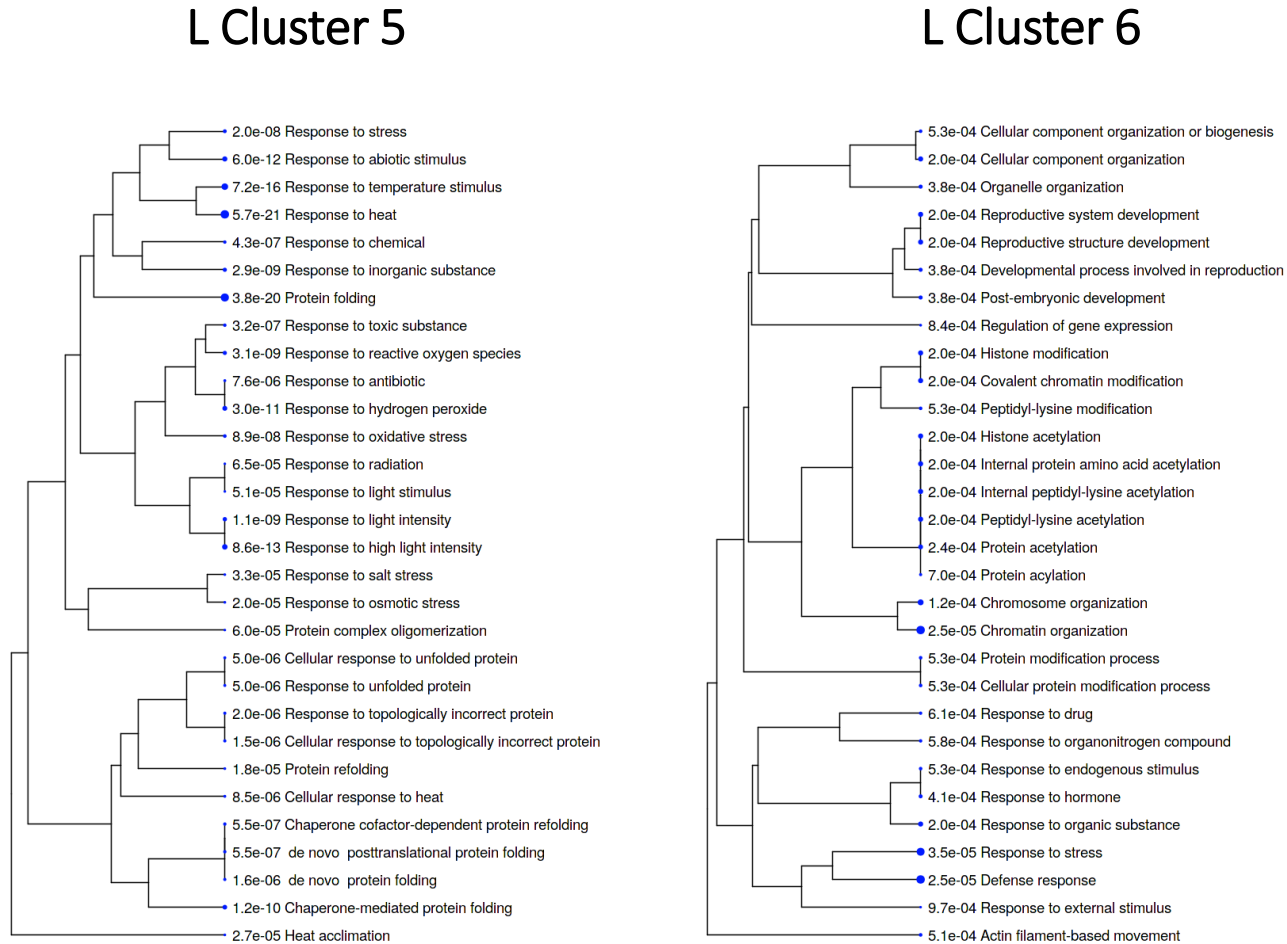


Suppl. Fig. S6C: Results on GO-term analysis for functional categories on the L cluster 3 and 4.

Cold-priming causes dampening of oxylipin biosynthesis and signalling during the early cold- and light-triggering response of *Arabidopsis thaliana*

Andras Bittner¹, Bettina Hause² and Margarete Baier^{1*}

Suppl. Fig. S6D



Suppl. Fig. S6D: Results on GO-term analysis for functional categories on the L clusters 5 and 6.