



**Supplementary Figure S3. Effects of *RhARF8* overexpression and IAA co-treatment on the relative expression of**

**anthocyanin biosynthesis-related genes in rose petals.**

The relative expression levels of key anthocyanin biosynthesis-related genes, including *RhCHSa*, *RhCHSc*, *RhCHI*, *RhF3H*, *RhF3'H*, *RhDFR*, *RhANS*, *RhGT1*, and *RhUF3GT*, were analyzed under four treatments: Mock (empty vector control), ARF8 overexpression alone, IAA treatment alone (50  $\mu$ M IAA), and *RhARF8* overexpression combined with IAA treatment. Gene expression was normalized to the internal reference gene, and data are presented as mean  $\pm$  SE ( $n = 3$ ). Different letters above the bars indicate significant differences among treatments ( $P < 0.05$ , one-way ANOVA with Tukey's test).