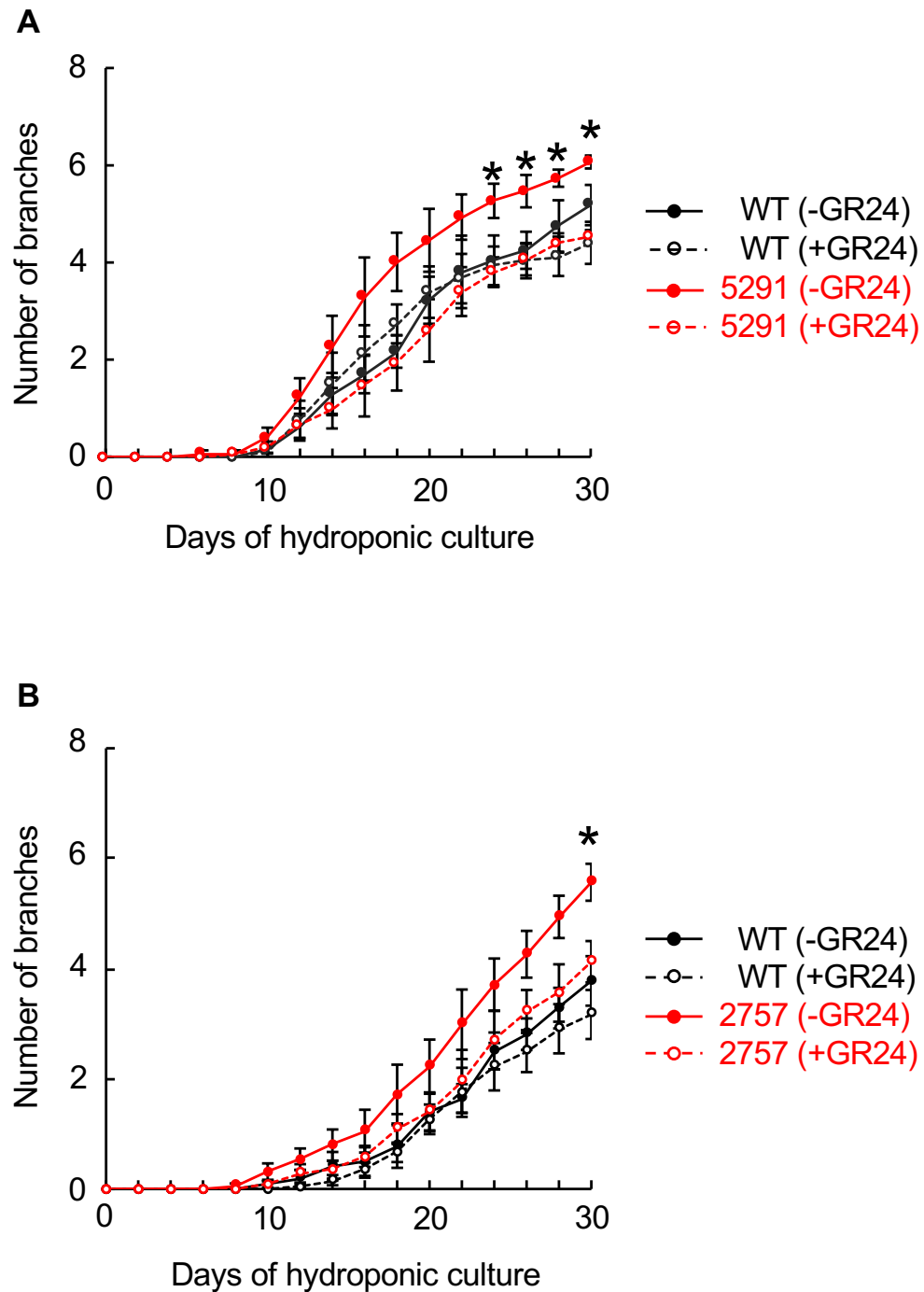
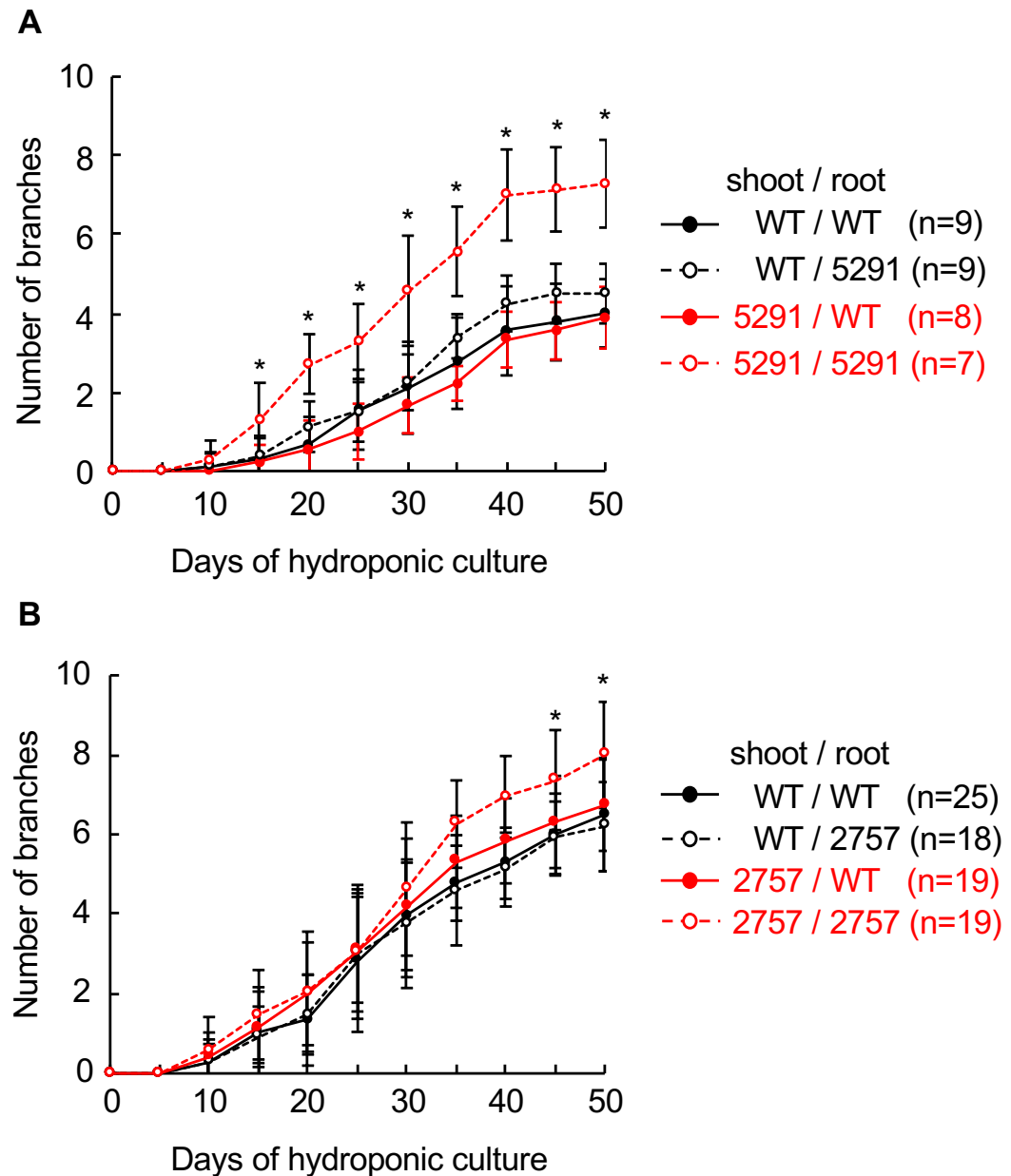


**Supplementary Fig. S1** Detection of lines 5291 and 2757. **A.** Structure of the *SlCCD8* gene. **B.** The *slccd8* mutants were found using the CAPS method. *Hpy*188I was used for 5291 and *Mbo*II for 2757. Red numbers indicate *slccd8* recessive homozygous mutants.

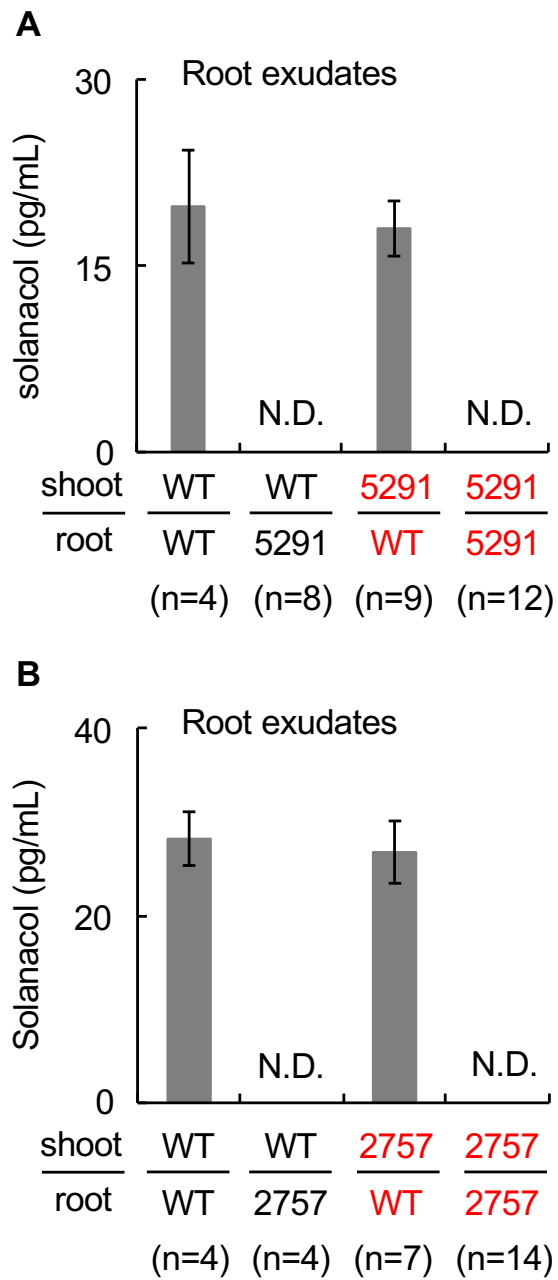




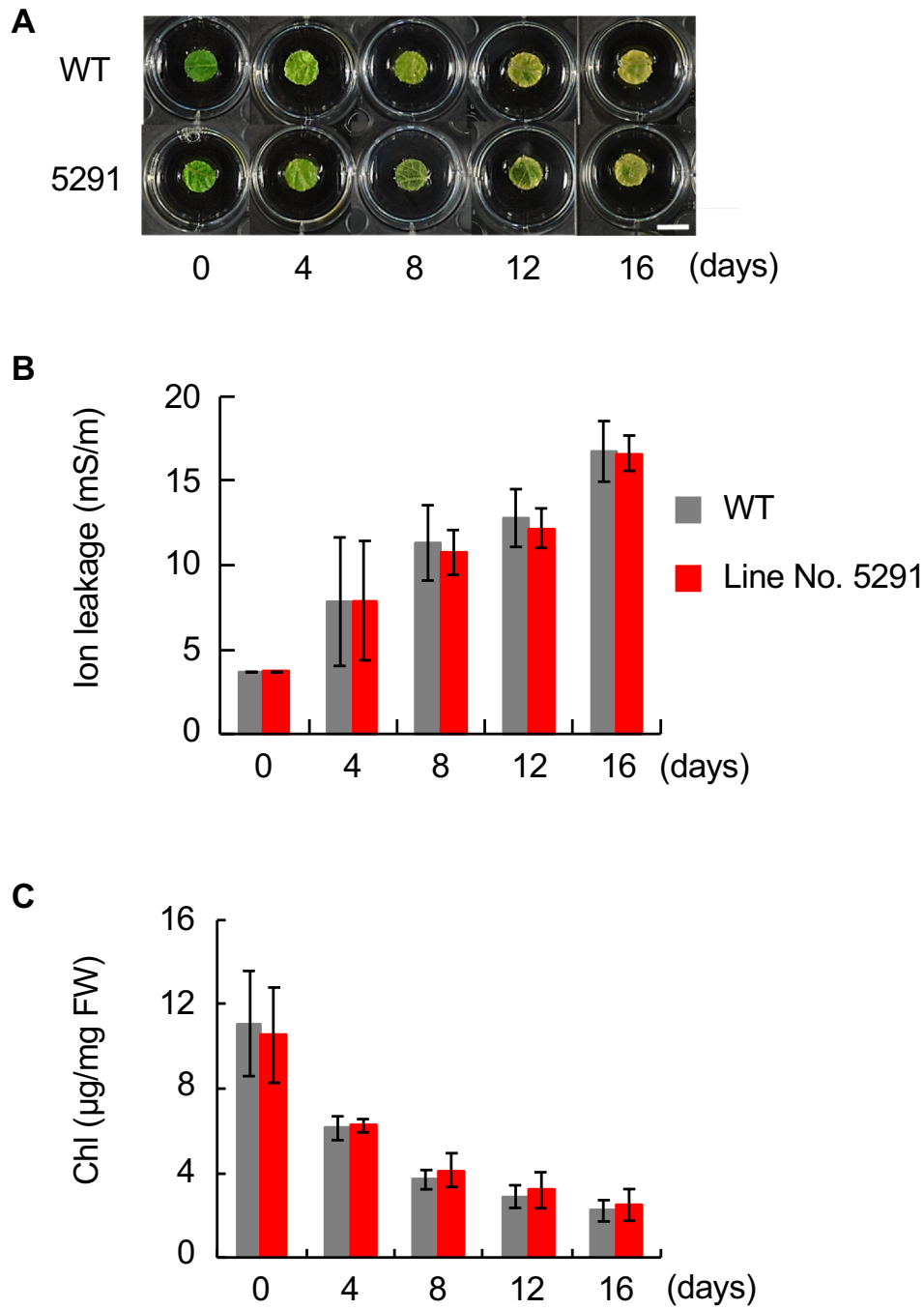
**Supplementary Fig. S3** Effect of exogenously applied SL (GR24) on branching. Branches were counted in 40-day-old plants. **A.** WT,  $n = 3$ ; line 5291,  $n = 3$ . **B.** WT,  $n = 4$ ; line 2757,  $n = 4$ . Error bars, S.E. Asterisks indicate significant differences between untreated and treated *slccd8* mutants (Student's *t*-test,  $*P < 0.05$ ).



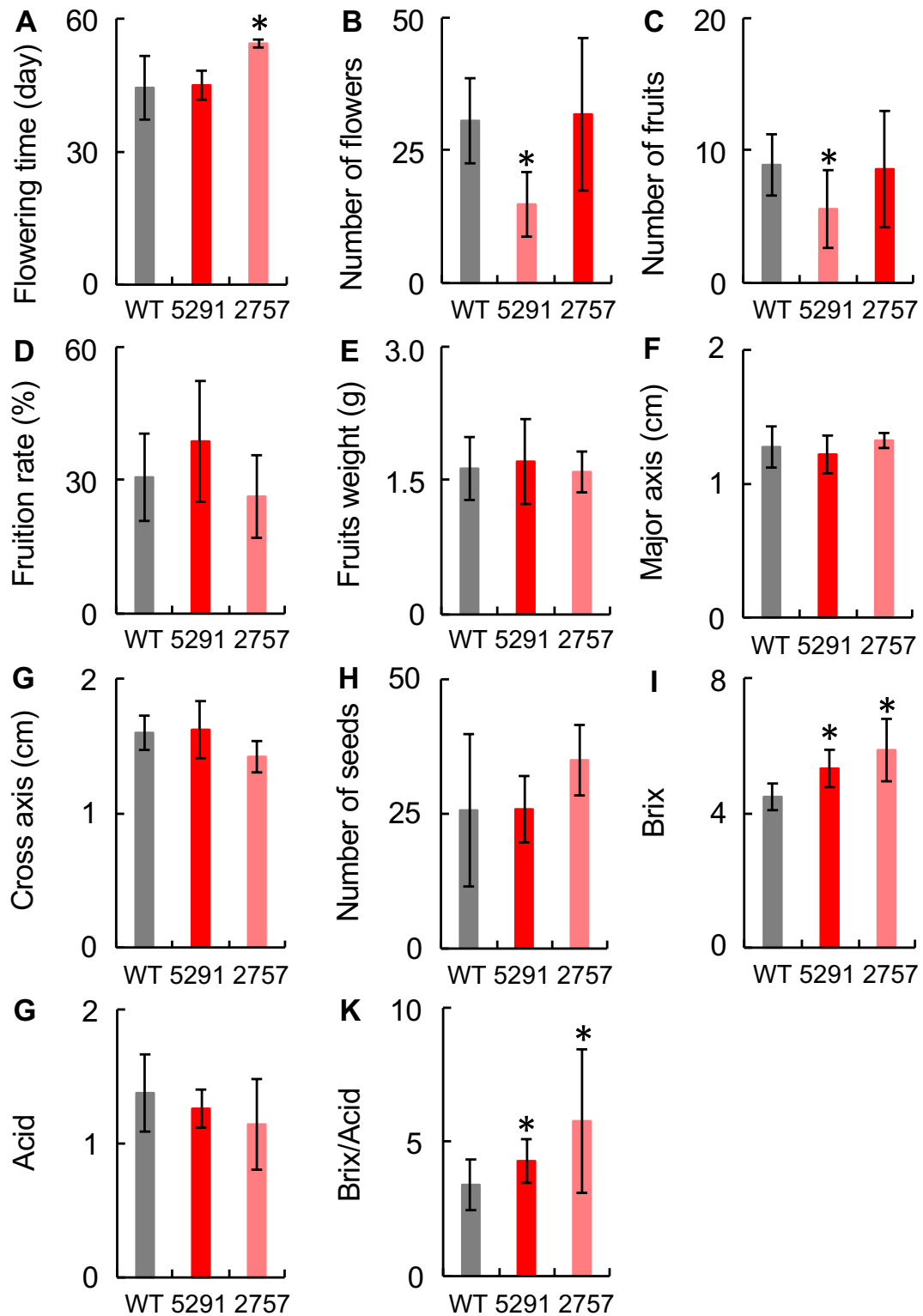
**Supplementary Fig. S4** Effect of endogenous SL on branching. Branches were counted for 50 days. **A.** Grafting of WT and line 5291. **B.** Grafting of WT and line 2757. Error bars, S.D. Asterisks indicate significant differences between 5291/5291 and 5291/WT in B and between 2757/2757 and 2757/WT in D (Student's *t*-test,  $*P < 0.05$ ).



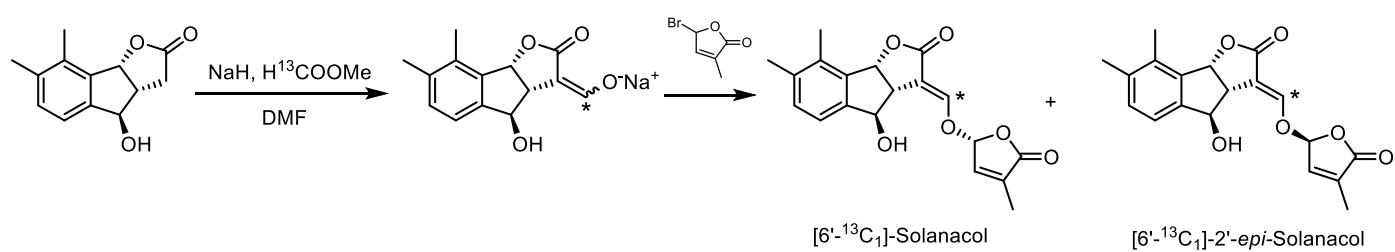
**Supplementary Fig. S5** Solanacol levels in root exudates in different grafting combinations between WT and *slccd8* mutants. **A** Grafting of WT and line 5291. **B**. Grafting of WT and line 2757. Error bars, S.E.; N.D., not detected.



**Supplementary Fig. S6** Effect of exogenously applied SL on leaf senescence in WT and line 5291. **A.** Leaf discs. **B.** Ion leakage. **C.** Chlorophyll content. Error bars, S.E. ( $n = 3$ ). Student's  $t$ -test, No significant differences were found in Student's  $t$ -test ( $P \geq 0.05$ ).



**Supplementary Fig. S7** Flower and fruit traits in *slccd8* mutants. Fruition rate is the number of fruits divided by the number of flowers. All fruit traits were assessed 70 days after flowering. WT and 5291,  $n = 12$ ; 2757,  $n = 5$ . Error bars, S.D. Student's  $t$ -test, \* $P < 0.05$ .



**Supplementary Fig. S8** Synthesis of  $[6'\text{-}^{13}\text{C}_1]\text{-solanacol}$ . Asterisks indicate the position of  $^{13}\text{C}$ .