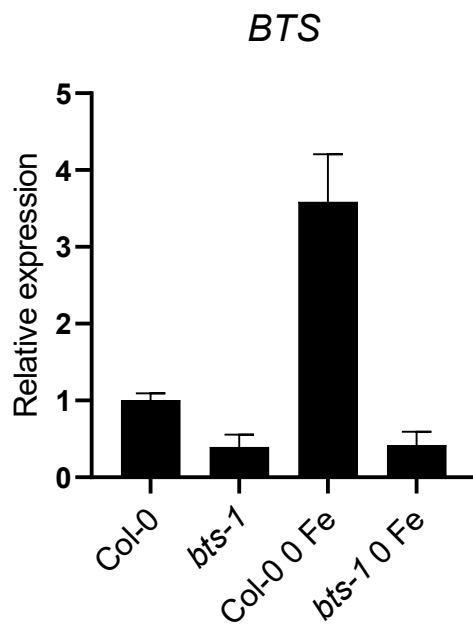


**A**

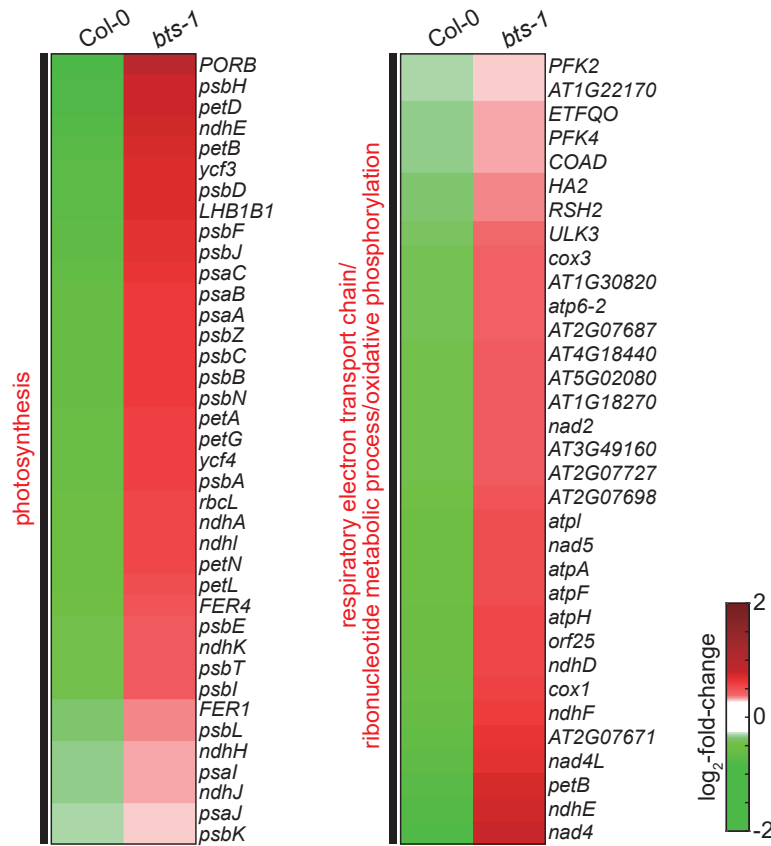


**B**

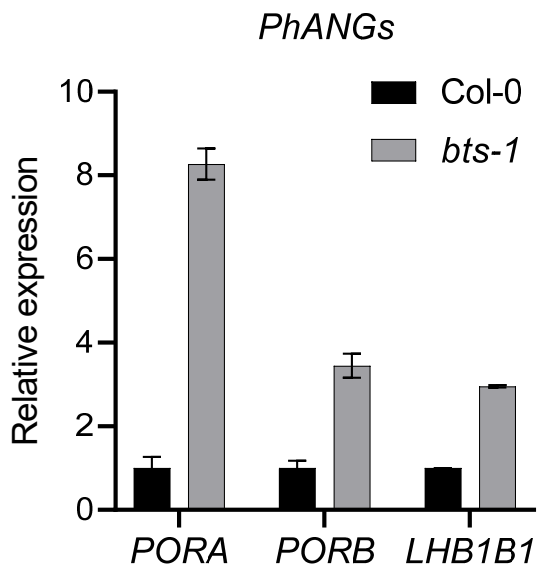


**Supplementary Fig. S1. Schematic presentation of T-DNA insertion in the *bts-1* allele and the expression level of *BTS* in *bts-1* plants under the iron deficiency condition.** (A) The T-DNA insertion site in *bts-1* (SALK\_016526) plants was marked a triangle. LB, left boarder of T-DNA. Gray box, UTR region; black box, exon; line, intron. (B) The expression of *BTS* was decreased to a lower level in *bts-1* plants and did not response to the iron deficiency treatment (0 Fe). Col-0, wild-type Col-0 plants. Error bars indicate  $\pm$  SD (n = 3).

**A**



**B**



**Supplementary Fig. S2. Heat map of up-regulated photosynthesis and energy metabolism-related genes and the relative expression level of *PhANGs* in *bts-1* shoot tissues.** (A) Heat maps of up-regulated genes involved in the indicated processes. Left panel, photosynthesis related genes. Right panel, RETC-, RMP-, and OP-related genes. Lists of genes expressed more than  $\log_2 0.5$ -fold change different in *bts-1* shoot tissues compared with *Col-0* shoot tissues are shown. The color bar represents gradient of  $\log_2$ -fold-change of mRNA expression levels in *bts-1* and *Col-0* shoot tissues with respect to the median mRNA expression levels. (B) Relative mRNA expression of selected genes among photosynthesis-associated genes encoded in the nucleus (*PhANGs*). *PORA*, *PORB*, and *LHCB1B1* transcript levels are elevated in *bts-1* shoot tissues more than 3-fold compared with *Col-0* shoot tissues. Error bars indicate  $\pm$  SD ( $n = 3$ ).

**Supplementary Table S1.** List of primers used in this study

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|              |                            |
|--------------|----------------------------|
| atpA_qRTR    | CCGGCGGTCTTCGTAAT          |
| atpF_qRTF    | GGCGCGCTTGCGTAAC           |
| atpF_qRTR    | CAGAGTATCCATTACGCGAAA      |
| atpH_qRTF    | CCTGGAGTCGGTCAAGGTACA      |
| atpH_qRTR    | TTGTCTCGCGATACCTTCGA       |
| atpI_qRTF    | GGAGCCCTTTTACCGTGGAA       |
| atpI_qRTR    | ATATCATTTCGTTGGTGCTGCTAAC  |
| ndhA_qRTF    | TGCAGGGATACAACAACGTATTG    |
| ndhA_qRTR    | TCGGCTAGAGCTTGAAGAATTC     |
| ndhE_qRTF    | CCGCTGAAGCAGCTATTGG        |
| ndhE_qRTR    | TGCGAATTGATTTTCTGTTACGA    |
| ndhI_qRTF    | AAACCCTACGAGCTGCAAGGT      |
| ndhI_qRTR    | AAACGATTTGTGTGGGATAAGGTAA  |
| ndhK_qRTF    | CAAATGCCTGAACCGAAGTATG     |
| ndhK_qRTR    | TGAACATCCCCCTGTAATTG       |
| PetB_qRTF    | ACCTCACCGGTGGTTTTAAAAA     |
| PetB_qRTR    | ACACCCAGAACCACACCAGTAAC    |
| PetD_qRTF    | CTTGGTACCATTGCCTGTAACG     |
| PetD_qRTR    | AGGTTACCAATCATTGATGGTT     |
| Ycf3_qRTF    | GGAGAACAGGCCATTCAACAA      |
| Ycf3_qRTR    | CGGCTTGAGCGAACCAA          |
| psbH_qRTF    | AGTTCTAGATCTGGTCCAAGAAGCA  |
| psbH_qRTR    | CTTTACCATATTCGGAATTCAATGG  |
| atpalphaqRTF | CCCCCATAGCCTCGTTCTA        |
| atpalphaqRTR | TCCGGCGTGAAGGACTCA         |
| atpcfam_qRTF | TTCTTCGGTCGAGCGTTCTC       |
| atpcfam_qRTR | CAGAGCGGCCAGTGATTGA        |
| orf25_qRTF   | TTAGGATCAGCTTGCGAATTTG     |
| orf25_qRTR   | GCACAGCGTGCCATTGG          |
| atp6-1_qRTF  | TTGATTTGGGCGAAGCTTTA       |
| atp6-1_qRTR  | ATGGACTGCAAAAAGGGACAT      |
| atp6-2_qRTF  | GGAGTGATTCAGGCCGGATA       |
| atp6-2_qRTR  | CCGCGGGAGTATGATCCA         |
| cox1_qRTF    | TGCCACGTCGTATTCCAGATT      |
| cox1_qRTR    | CAAAACTGGAAAGGGCATTCC      |
| cox3_qRTF    | TTTGCAACCACCGTAGGA         |
| cox3_qRTR    | AGTCTTGACCCCCTTGAAA        |
| nad4L_qRTF   | GGTGGCAGCTGCGGAAT          |
| nad4L_qRTR   | CGGACTCGGAAAGTTATAACGAA    |
| nad4_qRTF    | GCAGCGCTTGGGATGATTT        |
| nad4_qRTR    | GAAACCACACGATTATATAGCCAAAG |
| BTS_qRTF60   | ACTCAACACTTGATCCGAGGAG     |
| BTS_qRTR60   | GGAACATCCAAGTTCAACATCACC   |
| PORA_qRTF    | TTTCGGAGCAAAGCAAAGC        |
| PORA_qRTR    | TTTGTGACTGATGGAGTTGAAG     |
| PORB_qRTF    | CCCTCAAAGCGTCTCATC         |
| PORB_qRTR    | AATCTCCTCCATCAATCATAGC     |
| LHCB1B1_qRTF | AGCTCCGAGCTACCTCACTGGAGA   |
| LHCB1B1_qRTR | GGGTTGCCAAGTAGTCCAATCCT    |

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