## **Descriptions of Additional Supplementary Files**

File Name: Supplementary Dataset 1

Descriptions: List of candidate genes co-localized with SNPs repetitively associated with ΦPSII with an LD

window of 100Kb

File Name: Supplementary Dataset 2

Descriptions: Shortlist of prioritized candidate genes potentially underlying quantitative trait loci (QTLs)

for photosynthesis acclimation in Arabidopsis.

File Name: Supplementary Dataset 3

Descriptions: List of candidate genes co-localized with SNPs repetitively associated with ΦPSII with an LD

window of 20Kb

File Name: Supplementary Dataset 4

Descriptions: List of candidate genes co-localized with SNPs associated with curve parameters of ΦPSII

response

File Name: Supplementary Dataset 5

Descriptions: List of candidate genes co-localized with SNPs associated with first principal component of

ΦPSII response