## **Description of Additional Supplementary Files**

File name: Supplementary Data 1

**Description:** All MADS-box genes used in phylogenetic reconstructions.

File name: Supplementary Data 2

**Description:** The body-methylated genes and their methylation levels in BF4.

File name: Supplementary Data 3

**Description:** The body-methylated genes and their methylation levels in BM4.

File name: Supplementary Data 4

**Description:** The body-methylated genes and their methylation levels in F4.

File name: Supplementary Data 5

**Description:** The body-methylated genes and their methylation levels in M4.

File name: Supplementary Data 6

**Description:** Genes with significant differences in both methylation levels and expression levels

in M4 vs. F4.

File name: Supplementary Data 7

Description: Genes with significant differences in both methylation levels and expression levels

in BM4 vs. BF4.

File name: Supplementary Data 8

**Description:** Annotation of genes with difference in both expression and methylation in M4 vs.

F4 and BM4 vs. BF4.

File name: Supplementary Data 9

**Description:** HD-ZIP IV genes used in phylogenetic reconstruction.

**File name:** Supplementary Data 10

**Description:** All plant hormone contents.

File name: Supplementary Data 11 **Description:** Primers used in this study.

**File name:** Supplementary Data 12

**Description:** The numerical source data supporting both main and supplementary figures.