

### **Description of Additional Supplementary Files**

File Name: Supplementary Data 1

Description: Variance component analysis for 61 traits with SNPs and SVs.

File Name: Supplementary Data 2

Description: Summary of the SV-GWAS results and genes around 20kb. Significance was tested by standard linear mixed model.

File Name: Supplementary Data 3

Description: Primers used in the LUC experiment.