

Description of Additional Supplementary Files

File Name: Supplementary Data 1

Description: **Virulence regulatory network.** Information on the VRN from *R. solanacearum* strain GMI1000.

File Name: Supplementary Data 2

Description: **Environmental conditions and compositions.** List of environmental conditions and their composition used in the study.

File Name: Supplementary Data 3

Description: **VRN validation for predicting gene expression profile.** List of experimental and simulated expression profiles and statistics.

File Name: Supplementary Data 4

Description: **List and phenotypes of deletion mutants tested.** List of mutants used for phenotypic validation and list of the associated phenotypes

File Name: Supplementary Data 5

Description: **Tn5 insertion mutant library.** Complete list of the Tn5 insertion mutants.

File Name: Supplementary Data 6

Description: **Tn5 insertion mutant phenotypes.** Tn5 mutant essentiality phenotypes on complete medium, D-glucose, L-glutamate as sole source of carbon and energy.

File Name: Supplementary Data 7

Description: **Environmental conditions used in BECO analysis.** Environmental conditions tested for the BECO analysis

File Name: Supplementary Data 8

Description: **Results of BECO analysis.** Gene number in each BECO classification categories.

File Name: Supplementary Data 9

Description: **GC content of genes involved in the hybrid model.**

File Name: Supplementary Data 10

Description: **OrthoMCL analysis of 12 VRN-regulated genes involved in primary metabolism, but not in amino acid biosynthesis pathways.**

File Name: Supplementary Software 1

Description: Virulence regulatory network model iRP1443REG. VRN model of *R. solanacearum* GMI1000, iRP1443REG, in sbml-qual format.