

## Description of Additional Supplementary Files

File: Supplementary Data 1

Description: Taxa selected in step 1 for the construction of the sub-databases.

File: Supplementary Data 2

Description: Results of database searches for each step of the pipeline.

File: Supplementary Data 3

Description: List of identified genus and their relative abundances based on the number of total and specific TSMs, and number of specific peptides.

File: Supplementary Data 4

Description: List of protein groups identified in Step 3.

File: Supplementary Data 5

Description: List of GOslim annotations and their relative abundances.

File: Supplementary Data 6

Description: List of genus associated with biosynthetic process and cellular nitrogen compound metabolic process

File: Supplementary Data 7

Description: Univariate non-parametric statistics performed on the discriminant features from sPLS-DA.