

Supplementary Information for online publication

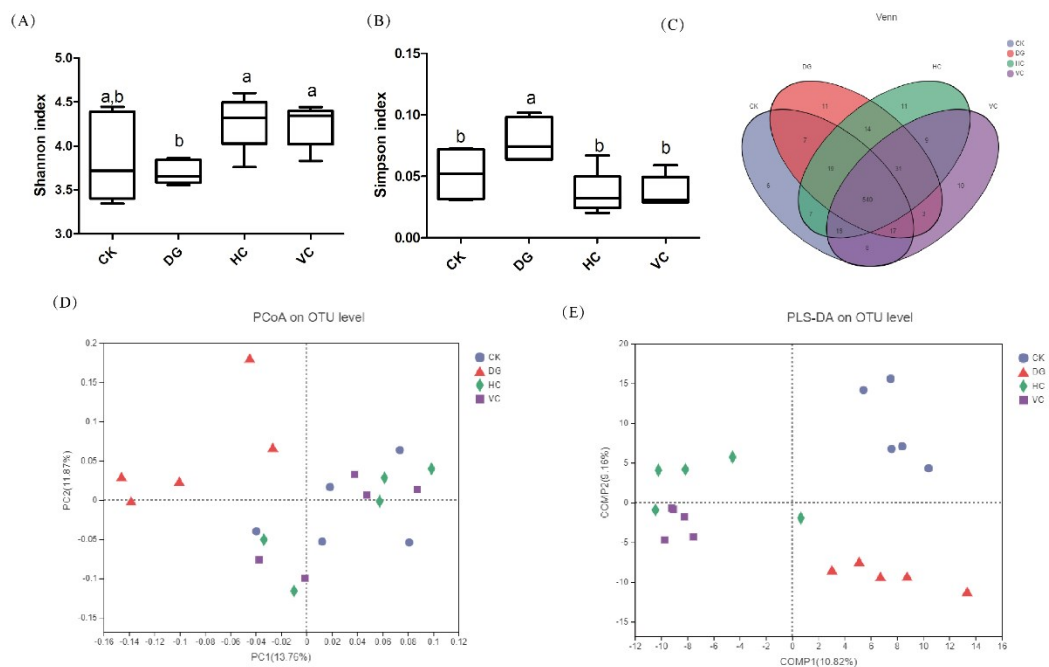


Fig. S1 Effect of *L. plantarum* Y44 administration on gut microbiota α -diversity and β -diversity.

(A) Shannon index, (B) Simpson index, (C) Venn diagram of OUT numbers, (D) Principal coordinates analysis (PCoA) score plots, (E) Partial least squares discrimination analysis (PLS-DA) score plots; CK, Control group; DG, D-Galactose group; HC, High Concentration group; LC, Low Concentration group; VC, Ascorbic acid group.

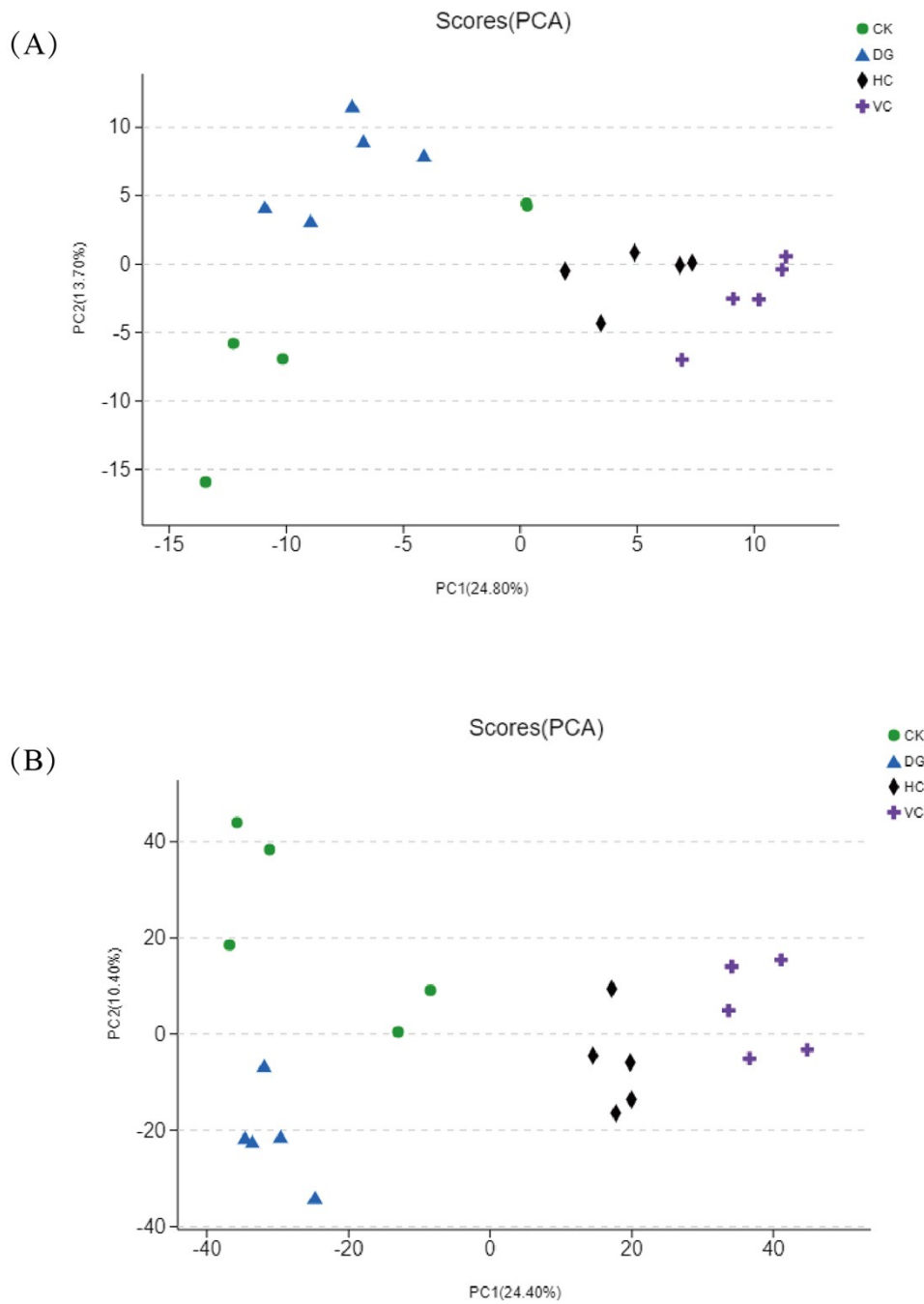


Fig. S2 Principal Component Analysis (PCA) score plots of serum samples from CK, DG, HC and VC group based on UPLC-MS in ESI+ (A) and ESI- modes (B). CK, Control group; DG, D-Galactose group; HC, High Concentration group; VC, Ascorbic acid group.

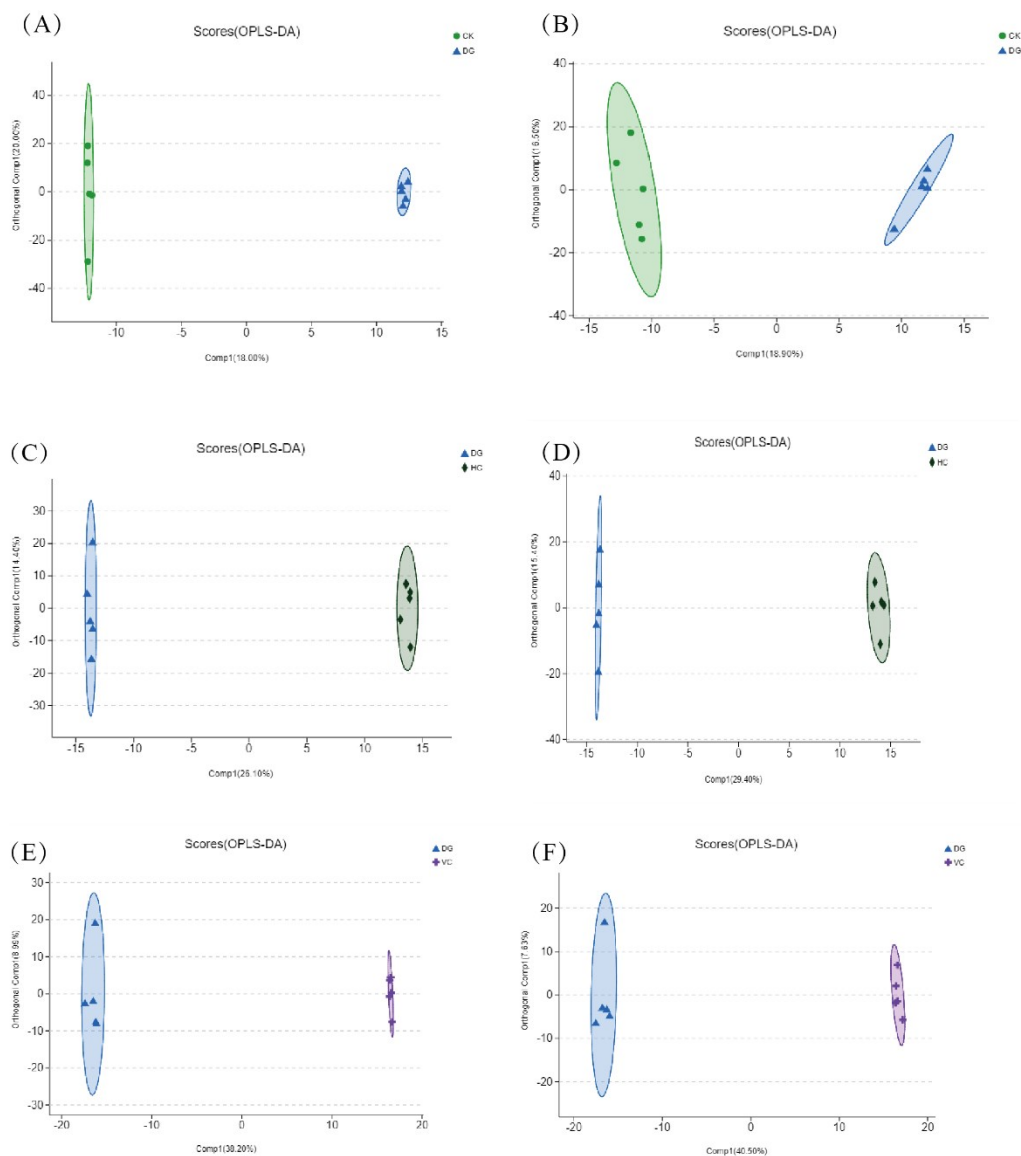


Fig. S3 OPLS-DA (orthogonal partial least-squares discrimination analysis) and permutation score plots of serum samples from CK, DG, HC and VC group. CK/DG group in (A) ESI+ model, (B) ESI- model; HC/DG group in ESI+ model (C), ESI- model (D); VC/DG group in ESI+ model (E), ESI- model (F). CK, Control group; DG, D-Galactose group; HC, High Concentration group; VC, Ascorbic acid group.

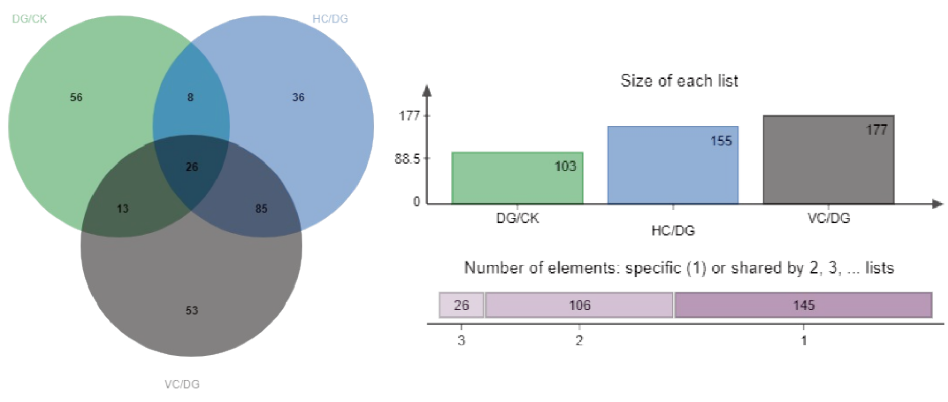


Fig. S4 Venn diagram of differential metabolites

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