



**Figure S1.** 3D plots of principal component analysis (PCA) and permutation test plots of Partial Least Squares Discriminant Analysis (PLS-DA) for different groups. **(A)** PCA 3D plot showing the separation between groups and the clustering within each group. **(B–D)** Permutation test plots after PLS-DA analysis. A total of 200 permutations were conducted after PLS-DA analysis, and the plots indicate that there is no overfitting of the data ( $pQ2 < 0.1$ ). PCA = principal component analysis, PLS-DA = partial least squares discriminant analysis. C, control group; D, diabetic group; DE, diabetic exercise group.