

**Supplementary Figure 2** – Heatmap of pairwise correlation coefficients among 65 lipoprotein variables in healthy control individuals (HC, lower left triangle, n = 393) and patients with Type 2 Diabetes Mellitus (T2DM, upper right triangle). The T2DM group includes all patients with T2DM (DA, n = 393), diabetic patients without hypertension or coronary heart disease (DO, n = 88), those with hypertension (DH, n = 105), and those with both hypertension and coronary heart disease (DHC, n = 197). Bi-clustering based on Euclidean distance and average linkage was applied to the correlation matrix derived from the HC group, and the same lipoprotein ordering was used across all heatmaps. The color bar (upper right) indicates Pearson correlation coefficient (R) values ranging from +1 to -1. The distribution plot (lower right) shows the frequency of R values across the correlation matrices from the HC and T2DM datasets. Note: Percentages in parentheses indicate the proportion of lipoprotein variable pairs with significant positive (+) or negative (-) correlations.













