

## **Description of Additional Supplementary Files**

**Supplementary Data 1. All significantly changed microbes across groups.** The mean abundances for the top 100 abundant microbes were also shown.

**Supplementary Data 2. The 110 KOs strongly associated with liver TG levels.** Only KOs with spearman correlation coefficient larger than 0.9 or smaller than -0.9 were shown.

**Supplementary Data 3. Genes involved in bacterial B12 biosynthesis. "Yes" indicates the existence of the query sequence in the corresponding bacterium.** Genes involved in the aerobic and anaerobic B12 biosynthetic pathways were labeled with different background color. Several bacterial strains potentially affected by silymarin were also colored.

**Supplementary Data 4. Basic clinical variables for the cohort study of B12 and serum triglycerides.**

**Supplementary Data 5. Hepatic genes altered by B12 administration in germ-free mice.**